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STATE OF COLORADO
BUREAU OF MINES

ANNUAL REPORT
1919

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State Oil Inspector



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STATE OF COLORADO
BUREAU OF MINES

State Capitol, Denver

HORACE F. LUNT, Commissioner of Mines

ANNUAL REPORT
FOR THE YEAR 1919



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LETTER OF TRANSMITTAL

To His Excellency,
THE HONORABLE OLIVER H. SHOUP,
Governor of Colorado.

Sir: In compliance with the provisions of Section 4268, Revised Statutes of Colorado, 1908, as amended by the 22nd General Assembly, 1919, I have the honor to transmit herewith the Annual Report of the State Bureau of Mines for the year 1919.

Respectfully submitted,

HORACE F. LUNT,
Commissioner of Mines.

State Capitol,
Denver, Colorado,
May 1, 1920.

PERSONNEL OF THE BUREAU OF MINES OF THE STATE OF COLORADO

HORACE F. LUNT, Commissioner of Mines.....	Denver
T. R. HENAHEN, Inspector, District No. 1.....	Denver
M. J. MCCARTHY, Inspector, District No. 2.....	Cripple Creek
R. J. MURRAY, Inspector, District No. 3.....	Leadville
ROBERT INNES, Inspector, District No. 4.....	Montrose
MISS HAZEL M. SCHMOLL, Chief Clerk.....	Denver
MRS. A. M. NICKERSON, Stenographer.....	Denver

DISTRICTS OF INSPECTION

DISTRICT No. 1—Denver, Jefferson, Boulder, Larimer, Jackson, Routt, Grand, Gilpin and Clear Creek Counties.

DISTRICT No. 2—El Paso, Teller, Pueblo, Las Animas, Huerfano, Custer and Fremont Counties.

DISTRICT No. 3—Lake, Summit, Chaffee, Park, Pitkin, Mesa, Delta, Eagle, Rio Blanco, and Garfield Counties.

DISTRICT No. 4—San Juan, Ouray, Hinsdale, Mineral, Rio Grande, Saguache, Costilla, Conejos, Archuleta, La Plata, Montezuma, Dolores, San Miguel, Montrose and Gunnison Counties.

INTRODUCTION

At the beginning of the year 1919 the metal mining industry of Colorado was suffering the full force of all the adverse effects of the war. The labor shortage was at its height, the markets for the base metals were low and uncertain, and the rare metal markets had practically ceased to exist. During the year conditions have steadily improved as economic conditions approached normal. The production was much less than that of 1918 because the activity toward the end of the year was not sufficient to overcome the stagnation of the earlier months.

The gold producers have been particularly affected by the increased costs of production. Of the mines whose product is chiefly or entirely gold, only those large enough to operate with great economy or rich enough to stand the greatly increased costs are able to operate under present conditions. Unless remedial legislation is speedily enacted by Congress a further decrease in gold production may be looked for.

The producers of silver and base metals are obtaining fair prices for their ores and their production for 1920 will probably exceed that for 1919.

The release of shipping at the end of the war, making foreign sources available, the large stocks on hand, and the lessening demand caused a complete collapse of the markets for Colorado pyrite, tungsten, vanadium, molybdenum and manganese. There is little likelihood that Colorado producers will be able to ship pyrite to the eastern seaboard under normal conditions. Tungsten production is at a standstill. If the proposed protective tariff is put on this metal it will enable some of the Colorado mines to resume production when the present stocks are depleted. The vanadium production was affected only temporarily. It is believed that molybdenum production will be resumed shortly as it can be produced as cheaply in Colorado as anywhere else. Manganese is again being shipped east in small quantity.

The demand for radium has resulted in a steady and increasing production of carnotite ores in the southwestern part of the state.

The increasing demand for, and decreasing supply of, petroleum has turned attention to the vast deposits of oil shale in northwestern Colorado and the adjoining parts of Utah and Wyoming. A considerable amount of exploratory and preliminary work has been done during the past year in connection with these deposits. Oil shale will undoubtedly form the basis of one of the largest industries of the state in years to come. This matter has been fully

treated in Bulletin No. 8, The Oil Shales of Northwestern Colorado, published in August in co-operation with the State Oil Inspector and the State Coal Mine Inspector.

The Globe Smelter of the American Smelting & Refining Company at Denver and the smelter of the Ohio & Colorado Smelting & Refining Company at Salida were closed during the year, due to the decreasing supply of ore. The smelters at Pueblo, Leadville and Durango are able to treat all the ore now produced, but in some cases the shippers have higher freight rates to pay.

The Denver, Boulder & Northwestern Railroad which furnished transportation for the Boulder County mining camps discontinued operation during the year and has been junked. It is reported that motor truck transportation is proving more satisfactory than the railroad.

The special session of the legislature appropriated \$15,000 for co-operative work on complex ores by the School of Mines and the U. S. Bureau of Mines. This consists of research on methods of treatment of ores which cannot now be treated profitably. It will undoubtedly be of great help in rendering available some of the mineral resources of the state which are at present of little or no commercial value.

I wish to express my appreciation of the loyal and efficient service rendered by the personnel of the Bureau, including that of J. Terry Duce, N. E. A. Hinds, and V. C. Perini, Jr., who have served as chief clerk during the year.

Review of District No. 1

BY INSPECTOR T. R. HENAHEN

BOULDER COUNTY

Tungsten mining was confined to a little development work by the Wolf Tongue Mining Company and the Vasco Mining Company. The reduction plant of the Tungsten Products Company was operated on ore from China and also on making radium compounds from the carnotite ores from the southwestern part of the state. No other tungsten reduction plants were operated.

A small amount of fluorspar was mined in the Jamestown District.

There was more activity in Caribou than in any other one camp in the county. Considerable high grade silver-lead ore was produced by the Caribou, Potosi, Belcher, Inter-State, Up-to-Date and Congo Chief mines.

At Ward the White Raven was the largest producer and a mill was erected to concentrate the lower grade ores.

At Crisman the Yellow Pine and Logan mines were worked extensively on the leasing system.

A notable strike was made in the Black Rose mine in Gillespie Gulch.

Comparatively little work was done in the Magnolia and Sunset districts as gold is practically the only metal found there.

Many small operations were in progress in other parts of the county, particularly where silver and lead are found.

GILPIN COUNTY

A good many small operations were carried on in various parts of the county. There was more work done in the Russell Gulch District than in any other section.

CLEAR CREEK COUNTY

A large number of small operations have been in progress throughout the year in the various mining districts of the county, especially in those where silver and lead predominate. The Colorado Central Mill worked steadily on ore from the old dumps. Several of the old producing mines which had been closed were reopened during the year.

OTHER COUNTIES

A good many clay mines and quarries were operated during the year in Jefferson County near Golden. Some intermittent work was done on a few metal mining properties in Jackson and Grand Counties. Various reduction and clay manufacturing plants were operated in and around Denver.

Review of District No. 2

By INSPECTOR M. J. McCARTHY

TELLER COUNTY

The Cripple Creek District was adversely affected by war conditions more seriously than any other mining camp in the state and has been unable to recover from the effects to any great extent. The high cost of supplies and scarcity of first-class miners combined with the diminishing purchasing power of gold have greatly curtailed development work. Under the many and serious handicaps it is surprising that production has not fallen off more.

The most prominent mines during the past year have been the Portland, Cresson and Vindicator. The Dexter, Trail, Modoc, Index and Granite have also been in fairly successful operation.

The discovery of ore of good average grade by the Portland at a depth of about 2,300 feet and by the Vindicator at 2,030 feet is encouraging as indicating the existence of workable ore at depth. The operations of the Lincoln Mines and Reduction Company are being watched with interest. This company has purchased a considerable acreage on Ironclad Hill and has built a mill designed to treat low grade ore by the Gasehe process. This process is new and if it proves successful will result in the handling of a large tonnage of a class of ore not at present of commercial value.

CUSTER COUNTY

The work of reopening the famous Bassiek Mine at Querida and of building a mill to concentrate the ore known to exist in the old workings has been going ahead during the year.

The property of the Passiflora Mining & Milling Company, near Westcliffe, has been the principal producer of the county.

FREMONT COUNTY

The two large cement plants of the Colorado Portland Cement Company and the United States Portland Cement Company have operated throughout the year. The various limestone quarries have produced between 1,500 and 2,000 tons per day, most of which is shipped to the steel plant of the Colorado Fuel and Iron Company at Pueblo. The zinc mills and smelters have treated several thousand tons of ore each month. This ore is shipped in from other counties.

PUEBLO COUNTY

The smelters have been in steady operation and a few quarries have been worked.

DOUGLAS COUNTY

Two small clay pits near Larkspur have been operating during the year, the product going to the Denver plant of the Denver Sewer Pipe and Clay Company.

EL PASO COUNTY

The Golden Cycle Mill, which treats most of the Cripple Creek ore, operated throughout the year. Some effort was made to treat ores from other districts without success.

Review of District No. 3

By INSPECTOR R. J. MURRAY

LAKE COUNTY

The Down Town Mines Company has been the largest and steadiest producer throughout the year. High grade ore has been opened up on Ibex property and in the Matchless mine. The Yak Mines Company has done considerable development work and has been experimenting with flotation in the old Leadville District Mill. Many other properties have been operated steadily and have added to the production of the various classes of ore found in the district.

SUMMIT COUNTY

The Climax Molybdenum Company's property, the largest operation in the county, was closed down early in the year.

The Wellington Mines Company ceased shipping for a large part of the year on account of the low price of zinc, but have kept up active development work.

The Royal Tiger has been developing its property and has been making an earnest attempt to found an ideal community about its property.

Several smaller properties have been operated in the Breckenridge district.

A number of small operations have been carried on in the Kokomo and Montezuma districts.

PITKIN COUNTY

The operations of the Smuggler Leasing Company have been handicapped by a fire in the lower workings of its property, but it is expected that it will be drowned out before long.

The Newman Tunnel has shipped steadily. Several other properties have been worked throughout the year.

CHAFFEE COUNTY

The Mary Murphy, the largest mine in the county, ceased operations during the year. A number of small properties have been operated more or less intermittently in various parts of the county.

PARK COUNTY

The London Mine has been by far the largest producer in the county. The Louisiana-Colorado mill was operated for a few months on dump ore. A number of other properties were operated intermittently.

EAGLE COUNTY

The Eagle mine of the Empire Zinc Company has been worked steadily. Practically no other mining was done in the county during the year.

Review of District No. 4

By INSPECTOR ROBERT INNES

SAN MIGUEL COUNTY

The larger mines of the Upper San Miguel District adjacent to Telluride, although somewhat hampered at times by a shortage of labor, had a successful year.

The method of treatment at the Smuggler Union was changed from cyanidation to flotation. This company built, near the portal of its main working tunnel, an apartment house for its employees. The apartments are furnished with hot and cold water, steam heat and electric cook stoves. The Tomboy Company built a new 600-ton flotation mill. The Liberty Bell was to be shut down, but a new vein was discovered which has given the mine an additional lease of life.

Several small operations were in progress in the Ophir District.

Two companies were operating in the vanadium field in the Lower San Miguel District. The mill of the Primos Chemical Company at Vanadium was destroyed by fire in February, but was rebuilt and operations renewed in September. The Colorado properties of this company have recently been taken over by the Vanadium Corporation of America. The Colorado Vanadium Corporation has completed a mill at Sawpit.

SAN JUAN COUNTY

The production of San Juan County has shown a marked falling off. The mine plant of the Sunnyside Mining and Milling Co. was destroyed by fire in April. It was rebuilt, but was not in commission until the last of December. The mill treated tailings from the old Terry mill during the summer. New machinery was installed in the Gold King mill and successful development work prosecuted in the mine.

A number of other properties were operated, some steadily and some intermittently.

OURAY COUNTY

The Atlas and the Mountain Top mines in the Sneffels District were the principal producers of the county. The Red Mountain Mines Company and other companies did a great deal of development work and shipped some ore from the Red Mountain District. A considerable tonnage was shipped by lessees from the mines of the Uncompahgre District.

DOLOROS COUNTY

Some development and construction work was done in the district about Dunton. Several small operations were conducted at and near Rico.

GUNNISON COUNTY

The Doctor Mine near Almont maintained a steady production of zinc ore. Some shipments were made and considerable development and construction work done in other parts of the county.

HINSDALE COUNTY

Prospecting work was done on several properties near Lake City, several of which made irregular shipments.

LA PLATA COUNTY

A few properties were being developed in the California District. The Jumbo Mine was the chief producer.

MINERAL COUNTY

Some excitement was caused by the discovery of silver in a flat bed of tuff near the top of Bachelor Mountain. Several cars of ore have been shipped from various openings in this deposit but the ore is not as extensive as was at first supposed. Shipments were made more or less regularly from the mines on the Bachelor-Amethyst vein and from those at Sunnyside. The Creede Exploration Company was unsuccessful in its prospecting operations below the Nelson Tunnel and ceased operations in July. A steady production of fluorspar has been made from the property of the American Fluor Spar Company at Wagon Wheel Gap.

MONTROSE COUNTY

There was considerable activity in the Carnotite District. The Standard Chemical Company, the Radium Company of Colorado, the Radium Luminous Material Corporation and George B. Pickett are the principal producers. The Michigan-Colorado Copper Company has been actively engaged in construction and development work at the Cashin Mine.

Winter operations have been greatly handicapped by bad roads, all the mines being fifty miles or more from the railroad.

SAGUACHE COUNTY

The Cocomongo, near Bonanza, was the only shipping mine in the county. It was closed down in August. Very little other work was done in the county.

The Mineral Collection

About one hundred new specimens have been added to the collection during the year. No special effort was made in this direction as facilities for taking care of any considerable increase are lacking.

The cases in which the minerals are displayed are old-fashioned and not dust-proof. They should be replaced as soon as possible as specimens in them soon become dusty and do not show to good advantage. Furthermore, the collection has already outgrown its present quarters and if the plans developed for its enlargement are carried through the space given to it must be increased. The present systematic collection of minerals lacks fifty per cent of the known species of minerals. These should be secured. It is also proposed to assemble sets of minerals and rocks to represent the ore occurrences and geology of each district in the state and to collect maps of the mines and geology of these districts; also to make similar collections from the most important mining districts of the world. Collections to illustrate the physical properties of minerals are badly needed. The collection of rocks is far too small and needs much systematic work. To do this work, one man skilled in mineralogy and petrography should be employed solely in the museum and he should be provided with money for adequate laboratory facilities, traveling expenses when in the field, and for the purchase of specimens.

About fifty selected specimens from the collection were exhibited at the Mining Exposition held in St. Louis during November in connection with the meeting of the American Mining Congress. This was the only mineral exhibit from a western state and attracted much favorable attention. Thanks are due to the Colorado Metal Mining Association for supplying the funds necessary to make this exhibit and to the Texas Company for the services of Mr. J. Terry Duce who had charge of it.

Production

The production of gold, silver, lead, copper, and zinc is given by counties in Table I. For reasons given in the introduction, marked decreases are shown in the 1919 production as compared with that of 1918.

The gold dredges operating in Summit and Lake Counties produced bullion valued at \$558,067.56 during 1919.

In 1918 Colorado produced 1,903 short tons of tungsten ore and concentrates carrying 60 per cent tungsten trioxide. The production for 1919 was insignificant as the only ore produced was that taken out in performing a small amount of development work.

In 1918 Colorado produced 17,739 short tons of carnotite ore from which 250 short tons of vanadium and 72 short tons of uranium were obtained. In 1919 the tonnage was 10,830 from which 235 tons of vanadium and 111 tons of uranium were obtained. This production was mostly from Montrose County, but a little carnotite was produced in Mesa County and some rosecolite, which is included, from San Miguel County.

In 1919 Colorado produced 19,062 long tons of manganese ore for which \$356,111 was received as against 20,130 long tons in 1918 with a value of \$547,464. Practically all of this came from the Leadville district in Lake County.

The fluorspar production for 1919 was about 10,000 short tons, nearly all of which came from Mineral County. There were a good many more shippers in 1918 and the production was 38,475 short tons, valued at \$416,780.

Acknowledgment is due to George Otis Smith, Director, and Charles W. Henderson, Statistician, United States Geological Survey, for the production statistics.

TABLE I

PRODUCTION OF THE PRINCIPAL METALS IN COLORADO IN 1918 AND 1919

County	GOLD				SILVER				COPPER				LEAD				ZINC				Total Value		Increase or Decrease	County			
	1918		1919		1918		1919		1918		1919		1918		1919		1918		1919		1918	1919					
	Quantity Fine Ounces	Value	Quantity Fine Ounces	Value	Quantity Fine Ounces	Value	Quantity Fine Ounces	Value	Quantity Pounds	Value	Quantity Pounds	Value	Quantity Pounds	Value	Quantity Pounds	Value	Quantity Pounds	Value	Quantity Pounds	Value							
Boulder	2,528	\$ 52,265	1,988	\$ 41,096	156,731	\$ 156,731	203,130	\$ 255,474	17,887	\$ 4,418	18,118	\$ 3,388	262,310	\$ 18,624	217,870	\$ 12,637				\$ 232,038	\$ 282,595	+	\$ 60,653	Boulder			
Chaffee	5,411	112,478	3,983	63,731	81,187	81,187	41,526	46,094	323,830	79,986	83,054	15,531	1,885,761	133,889	761,384	44,160	2,618,769	\$ 238,308	741,136	\$ 51,880	645,848	221,396	—	424,452	Chaffee		
Clear Creek	11,178	231,077	10,972	226,811	370,888	370,888	338,682	375,937	343,247	84,782	319,752	69,794	3,869,352	274,724	1,616,258	93,743	1,812,846	164,969	475,009	33,251	1,126,440	789,536	—	336,904	Clear Creek		
Custer	210	4,341	241	4,982	108,456	108,456	96,415	107,021	51,292	12,699	77,258	14,447	281,070	19,956	159,107	9,228	13,516	1,230			146,652	135,678	—	10,974	Custer		
Dolores	152	3,136	119	2,460	54,249	54,249	33,001	36,631	618,012	152,649	216,000	40,392	517,394	36,735	28,050	1,627	661,253	60,174			306,943	81,110	—	225,833	Dolores		
Eagle	1,710	35,975	922	19,059	241,406	241,406	45,813	50,852	353,041	87,201	126,837	23,718	2,927,099	207,824	21,283	1,234	14,845,341	1,350,926	2,929,798	205,086	1,923,332	299,949	—	1,623,383	Eagle		
Fremont	15	312			639	639			22,377	5,527			1,113	79							6,557		—	6,557	Fremont		
Garfield	45	928			15	15															943		—	943	Garfield		
Gilpin	13,612	281,384	4,041	83,897	124,929	124,929	77,381	85,893	456,044	112,643	47,001	8,789	774,972	55,023	383,765	22,258	28,099	2,557	155,753	10,903	676,536	211,440	—	366,096	Gilpin		
Grand			4	83			254	282							15,300	887						1,252	+	1,252	Grand		
Gunnison	502	10,368	1,502	31,049	12,880	12,880	16,306	18,100	43,033	10,629	5,333	997	300,760	21,364	51,434	2,983	2,349,538	213,808	2,208,864	154,620	269,039	207,749	—	51,290	Gunnison		
Hinsdale	302	6,249	338	6,987	22,245	22,245	17,726	19,676	18,308	4,522	6,298	1,178	767,972	54,526	42,610	2,472					87,542	30,313	—	57,229	Hinsdale		
Jefferson					9	9			1,000	247											256		—	256	Jefferson		
Lake	40,792	843,239	31,074	642,357	2,290,121	2,290,121	1,605,597	1,782,213	1,626,534	401,754	844,607	157,941	22,469,915	1,595,364	11,940,020	692,621	46,715,736	4,251,132	37,410,426	2,618,730	9,381,610	5,893,762	—	3,487,848	Lake		
La Plata	357	7,378	300	6,202	6,415	6,415	6,500	7,215	668	165	640	120	3,000	213	2,465	143					14,171	13,680	—	491	La Plata		
Mineral	671	13,913	469	9,695	640,959	640,959	347,858	386,122	3,490	862	330	62	989,620	70,263	838,563	48,637					96,278	6,738	726,027	451,255	—	274,772	Mineral
Moffat	147	3,040			7	7															3,047		—	3,047	Moffat		
Montrose			5	103			1	1														104	+	104	Montrose		
Ouray	5,207	107,645	3,088	63,835	801,359	891,369	301,287	334,429	153,117	37,820	41,153	7,696	2,587,915	183,742	1,474,418	85,616	39,297	3,676	24,960	1,747	1,134,142	493,223	—	640,919	Ouray		
Park	3,056	63,176	5,728	118,408	18,280	18,280	65,419	72,615	12,704	3,138	17,916	3,350	233,873	16,605	242,393	14,069					101,199	208,432	+	107,233	Park		
Pitkin			2		658,722	658,722	647,147	718,333	9,684	2,392			11,666,592	828,328	5,192,086	301,141	145,285	13,221	79,358	6,656	1,402,665	1,025,029	—	377,636	Pitkin		
Routt	34	698	18	372	2,664	2,664	1,286	1,128					6,691	468							3,830	1,800	—	2,030	Routt		
Saguache	121	2,553	45	939	89,510	89,510	32,265	35,814	96,866	23,926	34,618	6,473	108,253	7,686	114,534	6,643					119,674	8,377	123,675	58,237	—	65,432	Saguache
San Juan	12,433	257,011	7,434	153,674	477,322	477,322	274,692	304,908	1,120,178	276,684	543,801	101,691	9,485,775	673,490	4,703,132	272,782	3,410,308	310,338	1,742,054	121,944	1,994,845	954,999	—	1,039,746	San Juan		
San Miguel	102,924	2,127,631	102,789	2,124,837	836,570	836,570	1,379,280	1,531,001	992,814	245,225	809,673	151,409	6,044,086	429,130	7,664,002	444,512	797,648	72,586	571,751	40,022	3,711,145	4,291,781	+	580,636	San Miguel		
Summit	22,698	467,139	22,782	470,946	117,326	117,326	74,302	82,475	13,206	3,262	118,287	22,120	777,338	65,191	390,416	22,644	15,596,264	1,428,360	4,890,368	342,326	2,071,278	940,511	—	1,130,767	Summit		
Teller	392,793	8,119,747	280,416	5,796,713	50,665	50,665	33,648	37,349													8,170,412	5,834,062	—	2,336,360	Teller		
Totals	616,864	\$12,751,718	477,361	\$9,876,927	7,063,551	\$7,063,654	5,639,516	\$6,259,863	6,277,332	\$1,650,501	3,310,675	\$619,096	65,960,760	\$4,683,214	35,859,090	\$2,079,827	89,133,901	\$8,111,186	61,445,429	\$3,601,180	\$34,160,172	\$22,427,893	—	\$11,732,279			
Decreases			139,503	\$2,883,791			1,424,038	\$803,691			2,966,657	\$931,405			30,101,670	\$2,603,387			37,688,872	\$4,510,006							
Unit Prices		\$20.6718		\$20.6718		\$1.00		\$1.11		\$0.247		\$0.187		\$0.071		\$0.068		\$0.091		\$0.070							

Compiled from figures by C. W. Henderson, Statistician, U. S. Geological Survey. Figures for 1919 are preliminary and subject to correction.

Accidents

The accidents that occurred to the employes in the mines, mills, quarries, and smelters of the state are tabulated according to the United States Bureau of Mines classification in Tables II, III and IV.

NOTES ON THE FATAL ACCIDENTS OF 1919

UNDERGROUND

January 14, at Leadville, John H. Huberty, age 25, a miner, while timbering in a stope was crushed by a fall of rock and killed instantly.

January 22, in Clear Creek County, S. J. Cheesebrough, age 38, a mucker, while shoveling in a stope was struck on the head by a falling rock and killed instantly.

February 12, in the Cripple Creek District, Calvin H. Mishey, age 50, and C. Robinson, age 55, miners, were asphyxiated by carbonic acid gas and were dead when found.

February 18, near Telluride, Veniz Bonelli, age 32, an ore loader, was crushed and suffocated under a derailed car which fell on him while he was trying to put it back on the track.

February 24, near Telluride, Patsy Norcia, age 37, was crawling into a chute in which the rock was hung up. A large rock fell and crushed his head and chest against the timbers, killing him instantly.

February 25, near Telluride, Albert Nestor, age 40, a shift boss, while picking down rock in a chute was struck by a rock which fell from above. He was knocked down the chute and received injuries from which he died 18 hours later.

March 2, near Telluride, George Gonika, age 24, a mucker, was caught under falling rock while shoveling in a stope. He died from suffocation and shock.

March 6, in the Cripple Creek District, Thomas Wilson, age 40, a miner, was going through an old stope when some lagging broke causing him to fall 45 feet. His skull was fractured and he died about 20 hours later.

March 7, near Leadville, Richard B. Tindale, age 32, a trammer, while loading a car at a chute was caught by a rush of ore which broke one of his legs and otherwise injured him so that he died a few minutes later.

March 26, near Telluride, John Miller, age 29, a miner, was standing on a platform in a stope which gave way. He fell about 80 feet and received injuries which resulted in his death the following day.

May 5, in the Cripple Creek District, Neil C. Bogle, age 36, a trammer, was trying to blast a hung chute. The chute ran, knocking the charge of dynamite into the car where it exploded. Bogle received injuries from which he died in a few minutes.

May 20, near Telluride, Charles Hermanson, age 28, a trammer, while assisting in retimbering a caved level was caught by a new cave and crushed to death.

May 29, in Clear Creek County, Dennis Ford, age 47, a miner, was picking down ore in a stope all by himself. In some unexplained manner he fell into a chute and was drawn down with the ore. Whether he was killed by falling rock before he fell into the chute, or was suffocated afterwards is not known.

July 8, near Breckenridge, John McCoy, age 17, a trammer, received a shock from an electric wire which caused his death shortly afterwards.

September 15, in San Juan County, Mike Stakich, age 27, a machineman, was struck by falling rock while preparing to set up his drill. He received injuries which resulted in his death the following day.

September 17, near Leadville, John Codizio, age 45, an engineer, stuck his candlestick, containing a lighted candle, in a timber just below a nail on which a number of capped fuses were hung. The heat from his candle exploded the caps and his head was partially blown off.

September 26, in the Cripple Creek District, S. E. Carver, age 47, a machineman, was so injured by a falling slab of rock in a stope that he died a few hours later.

November 19, near Leadville, Swan V. Swanson, age 60, a miner, was crushed beneath a large rock which fell from the back of a drift and killed instantly.

November 21, near Kokomo, Carl Olson, age 37, and John Winters, age 32, miners, were suffocated by powder gases in a tunnel. Olson was struck by flying rock from a delayed shot and rendered unconscious. Winters was trying to carry him out when overcome by the gas. Both were dead when found.

November 22, at Leadville, Joseph Mezner, age 59, a miner, backed into a chute and fell 125 feet. His neck was broken and he died almost immediately.

December 3, in San Juan County, Dominick Avi, age 34, a miner, was barring down loose rock from the back of a stope. A large mass of rock fell on him causing injuries from which he died about a month later.

December 9, in the Cripple Creek District, William P. Munro, age 48, a miner, was mucking on a level when the timbering above him gave way, dropping a large quantity of rock on him. He was knocked to the level below and killed instantly.

SHAFT

January 1, near Aspen, Francisco P. Sepe, age 34, a cager, while picking ice in the shaft was caught between cage and timbers by a sudden dropping of the cage. His head was crushed and he died instantly.

March 8, near Leadville, William J. Germon, age 22, a cager, while ascending a shaft on a cage slipped on some ice on the floor of the cage, slipped off, was crushed between the cage and timbers and fell over a thousand feet to the bottom of the shaft. He was killed instantly.

June 3, near Telluride, Steve Gaspar, age 40, a cager, pushed a car into a shaft and fell after it a distance of 150 feet. He was killed instantly.

December 7, near Telluride, Charles Kanagas, age 42, a machine man, while working in a shaft was struck on the head by a wheel which came off the skip, and instantly killed.

SURFACE

March 19, in San Juan County, Jack Seay, age 25, and Albert Wizorek, age 27, muckers, were killed by a snowslide which carried away part of a mine building.

March 30, in the Cripple Creek District, Anthony Kitzer, age 47, a tramway tender, was caught under the tension weight of an aerial tramway when the clamps holding it slipped. He was instantly killed.

MILLS

May 9, in Chaffee County, Robert F. Kaskie, age 35, a millman, was caught on a line shaft and torn to pieces.

May 23, near Lake City, Adolph Benson, age 20, a millman, while on a platform shifting a running belt was caught and

thrown fifteen feet to the floor. His skull was fractured and he died in a short time.

December 8, at Colorado Springs, Harry L. Cox, age 35, a laborer, while crossing a railroad track, was run over by a train and instantly killed.

SMELTERS

January 18, at Pueblo, Serafin Saldivar, age 19, a pot man, climbed over a guard rail around an ore mixer, his clothes caught in a sprocket and he was wound around a shaft and killed.

March 20, at Pueblo, Bibiano Guitterez, age 25, a switchman, was making a coupling between two pot-cars when his foot slipped and his leg was caught by the pot-car wheel. His leg was amputated and he died four days later from the shock.

QUARRIES

August 28, in a clay mine near Golden, William Reynolds, age 38, a miner, was crushed and instantly killed by falling clay.

September 9, at a cement plant in Fremont County, Felix Garcia, age 39, a laborer, tripped and fell under a moving train of ash cars. He was instantly killed, his body being nearly cut in two.

TABLE III

CLASSIFICATION ACCORDING TO CAUSE OF ALL ACCIDENTS IN THE METAL MINING AND QUARRYING INDUSTRY IN THE STATE OF COLORADO DURING THE YEARS 1918 AND 1919.

	Serious Injuries (Time lost over 14 days)						Slight Injuries (Time lost 1 to 14 days)			
	Fatal		Permanent Total		Partial		Temporary		Disability	
	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919
UNDERGROUND										
1. Falls of rock or ore from roof or walls.....	17	9	.....	.....	1	2	84	44	66	36
2. Handling of rock or ore—
(a) Loading at face.....	1	9	1	5	8
(b) Loading at chute.....	1	.....	.....	2	.....	16	19	21	27
(c) Sledging.....	2	.....	2	4	.....
3. Timber or hand tools.....	1	.....	.....	.....	.....	.....	14	4	30	8
4. Explosives—
(a) Transportation.....	1	.....	1	.....	.....	.....
(b) Charging.....	1	.....	.....	.....	.....	.....	3	.....	1	.....
(c) Suffocation.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
(d) Drilling into old holes.....	1	.....	.....	.....	.....	.....	.....	1
(e) Striking in loose rock.....	1
(f) Thawing.....
(g) Caps, detonators, etc.....	1	.....	.....	.....	.....	1	3	.....	.....
(h) Unguarded shots.....	1	.....	.....	.....	.....	.....	.....	.....
(i) Returned too soon.....	1	.....	2	1	.....	.....
(j) Premature shot.....	3	.....	.....	.....
(k) Miscellaneous.....	1	.....	.....	.....	1	1	.....	.....	5
5. Haulage—
(a) Hand and animal.....	1	.....	.....	1	1	52	21	58	26
(b) Mechanical.....	7	7	.....	7
6. Persons falling down chute, winze, raise or slope.....	4	4	.....	.....	.....	.....	44	17	33	10
7. Run of ore from chute or pocket.....	1	1	1	.....
8. Drilling (by machine or hand drills).....	2	1	.....	.....	.....	2	15	18	18	26
9. Electricity—
(a) Direct contact with trolley wire.....
(b) Tool or bar striking trolley wire.....	1	.....	.....	.....	.....	.....
(c) Contact with motor.....	1	.....	1	.....
(d) Other causes.....	1	.....	.....	2	1	.....	4	3	1
10. Machinery other than 5 and 8.....
11. Mine fires.....
12. Suffocation from natural gases.....	2	.....	.....	.....	.....	.....	.....	.....	.....
13. Inrush of water.....
14. Nails and splinters.....	4	1	.....	1	1

[illegible]

SHAFET

16.	Falling down shaft.....	1	2	1	2	1	1
17.	Objects falling down shaft.....	1	1	1	1	3	3
18.	Breaking of cables.....	.....	.....	.....	.....	.....	.....
19.	Overwinding.....	.....	.....	.....	.....	.....	.....
20.	Cage, skip or bucket—	.....	.....	.....	.....	.....	.....
	(a) Runway.....	.....	.....	.....	.....	.....	.....
	(b) Riding with rock or ore.....	.....	.....	.....	.....	.....	.....
	(c) Riding with timber or tools.....	1	.....	.....	.....	.....	.....
	(d) Struck by.....	.....	.....	.....	.....	.....	.....
21.	Other causes.....	.....	1	1	1	2	6
	Total.....	3	4	.....	.....	15	11

SURFACE SHOPS AND PLANT

[illegible]

CLASSIFICATION ACCORDING TO CAUSE OF ALL ACCIDENTS IN THE METAL MINING AND QUARRYING INDUSTRY IN THE STATE OF COLORADO DURING THE YEARS 1918 AND 1919—Con't.

	Serious Injuries (Time lost over 14 days)						Slight Injuries (Time lost 1 to 14 days)					
	Fatal		Permanent Total		Partial Disability		Temporary Disability		1 to 14 days		1918 1919	
	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919
PLACER MINES—DREDGING												
1. Machinery	2	..	..	2	1	1	2
2. Electricity	1	1	..
3. Boiler explosions or bursting of steam pipes	1	1	1	1	1
4. Falls of persons	1	1	1	2	..
5. Hand tools	2	1	1	5	3
6. Other causes
Total	2	..	4	4	..	10	8
ORE DRESSING AND MILLING												
1. Haulage system— (a) Cars and motors	8	2	..	..	2
(b) Mechanical conveyors	1	1	2	2	..	1	..
2. Railway cars and locomotives	2	..	..	1	2
3. Crushers, rolls or stamps	1	13	7	6	1
4. Tables, jigs, etc.	17	3	16	4	4
5. Other machinery	1	2	..	..	..	8	1	..	..	1	..	..
6. Falls of persons	8	3	14	8	1
7. Suffocation in ore bins	1	1	..	..	..
8. Falling objects (rocks, timbers, etc.)
9. Cyanide or other poisoning
10. Scalding (steam or water)	1	..	..	..
11. Electricity	1	..	..	..	..	..	..	1	3	..	..	..
12. Hand tools, axes, bars, etc.	1	2	..	17	2	2
13. Nails, splinters, etc.	2	..	9	1	1
14. Flying pieces of rock from sledging or crushing	1	..	11	7	..
15. Other causes	7	6	17	..	..
Total	2	2	..	1	..	9	3	67	24	94	36	..
SMELTER												
16. Haulage system— (a) Cars and motors	1	..	..	..	..	2	2	22	8	32	8	..
(b) Mechanical conveyors	2	..	..	..	..	1	..	8	1	10	2	..
17. Railway cars and locomotives
18. Cranes	1	1	1	1	..
19. Other machinery	1	1	..	..	..	1	1	8	2	3	3	..
20. Falls of persons	1	..	11	5	19	10	..

21. Suffocating in ore bins.....	1	1	18	8	33	23
22. Flying or falling objects (rocks, timbers, etc.).....	1	1	1	1	1	1
23. Gas (burns or asphyxiation).....	1	1	1	1	1	1
24. Scalding (steam or water).....	1	1	1	1	1	1
25. Electricity.....	1	1	10	3	15	8
26. Hand tools, axes, bars, etc.....	1	1	1	1	2	2
27. Nails, splinters, etc.....	1	1	14	7	18	11
28. Burns from matte, slag, or molten metal (pouring or spilling).....	1	1	8	2	7	7
29. Hot-metal explosions.....	1	1	4	22	7	36
30. Other causes.....	1	1	105	61	154	107
Total.....	5	7	4	105	154	107

AUXILIARY WORKS

31. Haulage systems, cars, motors, etc.....	1	1	3	3	5	5
32. Railway cars and locomotives.....	1	1	1	3	1	11
33. Falls of persons.....	1	1	1	5	1	9
34. Falling objects (rocks, timbers, etc.).....	1	1	1	1	1	4
35. Nails, splinters, etc.....	1	1	1	2	1	2
36. Hand tools, axes, bars, etc.....	1	1	1	3	1	1
37. Electricity.....	1	1	1	1	1	2
38. Machinery.....	1	1	1	1	1	3
39. Failure of ladder, scaffold, or other support.....	1	1	1	4	1	2
40. Handling hot materials.....	1	1	1	15	15	15
41. Other causes.....	1	1	1	27	2	54
Total.....	2	3	1	27	2	54

IN AND ABOUT QUARRY

1. Falls or slides of rock or overburden.....	1	1	7	6	1	4
2. Handling rock at face.....	1	1	1	1	10	5
3. Timber or hand tools.....	1	1	1	1	1	5
4. Explosives—	1	1	1	1	1	5
(a) Transportation.....	1	1	1	1	1	5
(b) Charging.....	1	1	1	1	1	5
(c) Drilling into old holes.....	1	1	1	1	1	5
(d) Striking in loose rock.....	1	1	1	1	1	5
(e) Thawing.....	1	1	1	1	1	5
(f) Caps, detonators, etc.....	1	1	1	1	1	5
(g) Unguarded shots.....	1	1	1	1	1	5
(h) Returned too soon.....	1	1	1	1	1	5
(i) Premature shot.....	1	1	1	1	1	5
(j) Miscellaneous.....	1	1	1	1	1	5
5. Haulage—	1	1	3	3	1	1
(a) Hand and animal.....	1	1	1	1	1	1
(b) Mechanical.....	1	1	1	1	1	1

TABLE IV

CLASSIFICATION ACCORDING TO CAUSE AND OCCUPATION OF THE FATAL ACCIDENTS
THAT OCCURRED IN THE METAL MINING AND QUARRYING INDUSTRY OF COLORADO
IN THE YEARS 1918 AND 1919.

MINES																
Superintendent- men and Engineers		Machine Men and Helpers		Miners		Loaders, Shovelers, and Muckers and Trammers		Trackmen, Pipemen, Pumpmen and Com- pressormen		Cage Tenders and Station Cagers		Carpenters, Timber- men and Helpers		Elec- tricians, Motor- men and Helpers		
1918	1919	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919	
UNDERGROUND																
1.	Falls of rock or ore from roof or wall.....	1	2	2	4	11	2	.....	.....	.....	.....	4	.....	.....	.....
2.	Hauling rock or ore.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
3.	Timber or hand tools.....	.....	.....	2	2	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
4.	Explosives.....	1	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
5.	Haulage.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6.	Persons falling down chute, winze, raise, or slope.....	.....	3	.....	4	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
7.	Run of ore from chute or pocket.....	.....	1	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
8.	Drilling (by machine or hand drills).....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
9.	Electricity.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10.	Machinery other than 5 & 8.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
11.	Mine fires.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12.	Suffocation from natural gases.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
13.	Inrush of water.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
14.	Nails and splinters.....	.....	.....	1	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
15.	Other causes.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....		2	7	4	14	15	6	.....	.....	.....	.....	5	.....	.....	.....
SHAFTS																
16.	Falling down shaft.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
17.	Objects falling down shaft.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
18.	Breaking of cables.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
19.	Over winding.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
20.	Cage, skip or bucket.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
21.	Other causes.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....		.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

CLASSIFICATION ACCORDING TO CAUSE AND OCCUPATION OF THE FATAL ACCIDENTS THAT OCCURRED IN THE METAL MINING AND QUARRYING INDUSTRY OF COLORADO IN THE YEARS 1918 AND 1919—Concluded.

SURFACE ACCIDENTS

	Superintend- ents and Foremen	Engineers and Holstmen	Blacksmiths and Mechanics	Carpen- ters and Toppers	Elec- tricians	Others
	1918	1919	1918	1919	1918	1919
22. Haulage
23. Railway cars and locomotives
24. Run or fall of ore in or from ore bins
25. Fall of persons.....	1	...	...	...	...	...
26. Nails and splinters.....
27. Hand tools, axes, bars, etc.....
28. Electricity	1	...	...
29. Machinery	2	...	3
30. Other causes
Total	1	...	...	3	1	3

MILLS

	Super- intend- ents and Foremen	Grinding Machinery Men and Millmen	Concen- trator Men	Laborers	Carpenters and Mechanics	Aerial Tram Men and Conveyor Men
	1918	1919	1918	1919	1918	1919
1. Haulage system
2. Railway cars and locomotives.....
3. Crushers, rollers or stamps.....
4. Tables, jigs, etc.....
5. Other machinery	2	...	...	...	...
6. Falls of persons.....
7. Suffocation in ore bins.....
8. Falling objects (rocks, timbers, etc.)
9. Cyanide or other poisoning
10. Scalding (steam or water)
11. Electricity	1	...
12. Hand tools, axes, bars, etc.....
13. Nails, splinters, etc.....
14. Flying pieces of rock from sledging or crushing	1	...	...
15. Other causes
Total	2	1	1	1	...

SMELTERS

	Superintend- ents and Foremen		Laborers		Motormen and Switchmen		Feeders and Furnace Men and Charge Wheelers	
	1918	1919	1918	1919	1918	1919	1918	1919
1. Haulage system	1	...	1	...	1	...
2. Railway cars and locomotives
3. Cranes
4. Other machinery	1	1	...	...	...	...
5. Falls of persons
6. Suffocation in ore bins
7. Flying or falling objects (rocks, timbers, etc.)
8. Gas (burns or asphyxiation)
9. Scalding (steam or water)	1	...	...	...	...	...
10. Electricity
11. Hand tools, axes, bars, etc.
12. Nails, splinters, etc.
13. Burns from matte, slag, or molten metal (pouring or spilling)
14. Hot metal explosions	1	...	...
15. Other causes	3	1	1	1	...	...
Total

QUARRIES

	Teamsters		Drillmen		Laborers	
	1918	1919	1918	1919	1918	1919
1. Haulage	1	...
2. Machinery	1	1	...
3. Other causes
Total	1	1	1

OPERATING MINES IN BOULDER COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Congo Chief	Caribou	Allied Gold Mining Company	Boulder	Silver, Lead
Black Prince (a)	Cardinal	Black Prince Mining Company	3030 S. Sherman, Englewood	Gold, Silver (c)
Black Rose	Janestown	Black Rose Mining & Milling Co.	Jamestown	Gold, Silver
Tippecanoe	Rowena	Copeland & Company	Boulder	Gold, Silver
Sans Souci (a)	Ward	Digmore Mining & Milling Co.	Malmo, Nebraska	Gold, Silver (c)
July Bird (a)	Salina	L. H. Dolson	2140 Pine St., Boulder	Gold, Silver (c)
Belcher (a)	Caribou	William Todd & Company	Nederland	Gold, Silver
Addison, Maggie (a)	Gold Hill	Egyptian Mining Corporation	Boulder	Gold, Sil., Lead (c)
Emancipation (a)	Gold Hill	Emancipation Mine Company	Boulder	Gold, Silver (c)
White Raven (m)	Ward	L. A. Ewing & Company	Boulder	Silver, Lead
Kansas City (a)	Ward	Great West Mines Syndicate	Ward	Gold, Silver (c)
Mountain Chief (a)	Rowena	Hays Brothers	Boulder	Gold, Silver (c)
Potosi	Caribou	John S. Heine & Company	Caribou	Gold, Silver, Lead
Good Friday (a)	Sugar Loaf	J. Gillingham Hibbs Ore Company	Central Savings Bank Bldg., Denver	Fluorspar
Argo, Emmet Mines (a) (m)	Jamestown			
Lehman Mill				
Golden Age Mill	Ward	Humboldt Leasing Company	Ward	Gold, Silver (c)
Humboldt	Salina	Interstate Metals Company	514 Denham Bldg., Denver	Gold, Silver (c)
Richmond	Crisman	Logan Metals Company	Box 333, Boulder	Gold
Logan	Sunset	Luverne Mining & Reduction Co.	Sunset	Gold, Silver (c)
Little Maxine (a)	Magnolia	Missoula Min., Mill. & Leas. Co.	Magnolia	Gold, Silver (c)
Missoula (a)	Crisman	National Gold Mining Company	Boulder	Gold (c)
Dime (a)	Ward	Victor Newman & Company	Ward	Gold, Silver (c)
Wirth (b)	Salina	H. W. Nicholls	Salina	Gold, Silver (c)
Evans Group (a)	Sunshine	Nil Desperandum Mines Company	Citizen's Nat. B. B., Boulder	Gold, Silver
Parallol Prospect	Nederland	North Boulder Creek Mining Co.	Nederland	Gold, Sil., Cop. (c)
Blue Bird (a)	Goldhill	Slide Gold Mining Company	17 Earl Block, Boulder	Gold, Silver
Slide (b) (m)	Lyons	Smuggler Mine & Milling Company	Lyons	Gold, Silver
Smuggler	Salina	O. C. Stoby	Bettendorf, Iowa	Gold, Silver (c)
Fairfax (a)	Rowena	S. A. Tarbet & Company	Boulder	Gold, Silver
Prussian (m)				

Tarbox Tunnel	Ward	J. L. Tarbox	Clayton, Illinois	Gold, Silver (c)
Vasco (m)	Tungsten	Vasco Mining Company	Boulder	Tungsten
Victoria	Summerville	Victoria Mining Company	Summerville	Gold, Silver
Colorado No. 2 (a)	Ward	J. H. Watson & H. D. Evans	Arvada	Gold, Silver (c)
Cold Spring Mine	Nederland	Wolf Tongue Mining Company	Box 25, Boulder	Tungsten (c)
Wolf Tongue Mill (m)				
Yellow Pine	Crisman	Yellow Pine Mines & Reduction Co.	Box 494, Boulder	Gold, Silver
White Metal Lode (a)	Nederland	T. H. Thomas and H. C. Gilbert	Nederland	Gold, Silver (c)
Boulder County Tunnel (a)	Cardinal	John G. Clark	Boulder	Gold, Silver (c)
Horsfal (a)	Gold Hill	W. L. McCaslin	Longmont	Gold, Silver (c)

OPERATING MINES IN CHAFFEE COUNTY, 1919				
Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Madonna (a)	Garfield	Colorado-Arizona Mines Company	Garfield	Gold, Silver, Lead, Zinc
Cottonwood Gulch (a)	Buena Vista	Cottonwood Gulch Mining Company	Canon City	Gold, Silver (c)
Flora Bell	Elmo	Flora Bell Mining Company	712 Interstate Trust Bldg., Denver	Gold, Silver, Lead, Zinc
Garfield	Garfield	Garfield Mining Company	Garfield	Gold, Silver, Lead, Zinc
Eclipse, Little Giant	Garfield	Giant Eclipse Consolid'd Mines Co.	Box 488, Salida	Gold, Silver, Lead, Copper
Gladstone (a)	Buena Vista	Gladstone Mining Association	Box 132, Buena Vista	Gold, Silver (c)
Golden Calf (a)	Twin Lakes	Golden Calf Mining Company	Rm. 24, State Capitol, Denver	Gold, Silver
La Junta (a)	Salida	La Junta Mining & Milling Co.	510 Dodge St., Salida	Gold, Sil., Copper
Mary Murphy (a) (m)	Romley	Mary Murphy Mining Company	414 Boston Bldg., Denver	Gold, Silver, Lead, Copper, Zinc
Tom, Dick and Harry (a)	Twin Lakes	Tom, Dick & Harry Mining Co.	Rm. 24, State Capitol, Denver	Gold, Silver (c)
Copper King Group (a)	Salida	Turret Mining and Milling Co.	Salida	Copper (c)
Alie Bell	Romley	Colorado Independence Mining & Development Co.	77 Opera House Bldg., Pueblo	Gold, Silver

(a) Operated for part of the year only.

(c) No ore shipped during the year.

(m) Mill operated in connection with the mine.

OPERATING MINES IN CLEAR CREEK COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Albro	Dumont	Earl B. Dingle	Dumont	Gold, Silver, Copper, Lead
Almaden	Fall River	J. A. Greenfield	Belair, Ohio	Gold, Silver (c)
American Sisters	Lawson	T. B. Burbridge	American Bank & Trust Bldg., Denver	Silver, Lead
Antelope	Silver Plume	Dixon Buchanan	Silver Plume	Silver, Lead (c)
Lamartine	Freeland	Broderick Mining & Milling Co.	Idaho Springs	Gold, Silver, Lead
Bellevue	Lawson	Bellevue-Hudson Mining & Tunnel Co.		
Champion-Trio (a)	Idaho Springs	Bellevue-Champion Mining & Power Co.	402 Mining Ex. Bldg., Denver	Sil., Lead, Zinc(c)
Blue Ridge, Hiawatha, Senator	Dumont	Blue Ridge Mines Company	17 Cooper Bldg., Denver	Gold, Silver, Lead, Copper
Lord Byron (a)	Freeland	Byron Mining & Leasing Company	213 Charles Bldg., Denver	Silver, Lead
Silver King	Dumont	Henry Bolthoff	Idaho Springs	Gold, Silver, Lead
Diamond Tunnel (a)	Silver Plume	James T. Burney	Silver Plume	Copper (c)
Big Five Tunnel	Idaho Springs	Big Five Mining Company	326 Century Bldg., Denver	Silver, Lead, Zinc
Pioneer (a)	Idaho Springs	Bonanza Mines Company	Idaho Springs	Gold, Silver, Copper
Regina (a)	Empire	F. E. Bender	3610 Stuart St., Denver	Lead, Copper(c)
Capitol	Georgetown	Capitol Mining & Tunnel Co.	Georgetown	Gold, Silver (c)
Specht, or Clear Creek and Gilpin, Tunnel	Dumont	Corporation of American Mines		Gold, Silver, Lead, Copper
Mint, Hecla (a)	Empire	Crown Prince Consolid'd Mines Co.	77 Broad St., New York City	Gold, Silver (c)
Colorado Central (m)	Georgetown	Colorado Central Mines Company	948 Gas & Elec. Bldg., Denver	Gold, Silver, Lead, Copper (c)
East Franklin, West Franklin	Idaho Springs	Consolidated Franklin Mines Co.	412 Boston Bldg., Denver	Silver, Lead
Star Tunnel, Columbia Group (a)	Idaho Springs	Columbia Silver & Gold Mining Co.	Equitable Bldg., Denver	Gold, Silver, Lead
			Idaho Springs	Gold, Silver (c)

Terrible-Dunderberg	Silver Plume	Denbigh Silver-Lead Mines Co.	Silver Plume	Gold, Silver, Lead
Dropper (a)	Georgetown	Dropper Mill, Min. & Trans. Co.	Georgetown	Gold, Silver (c)
Beaver (b)	Idaho Springs	Thomas Eagan	Idaho Springs	Gold, Silver, Lead
Queen Ore (a)	Idaho Springs	Charles G. Eagan	Idaho Springs	Gold, Sil., Lead(c)
Nimrod (a)	Idaho Springs	Freund & Hunter	Cassells	Gold, Silver (c)
Sill Group (a)	Idaho Springs	Michael Finnerty	Grant	Gold, Silver (c)
Georgetown Tunnel	Georgetown	Georgetown Tunnel Trans. Co.	Georgetown	Gold, Silver (c)
Golden Edge (a)	Idaho Springs	Golden Edge Mines Syndicate	436 1st Nat. B. Bldg.,	Gold, Silver (c)
Gold Glen (a)	Idaho Springs	Gold Glen Min., Mill., & Tun. Co.	Idaho Springs	Gold, Silver (c)
Denver City Group,				Gold, Silver (c)
Denver City Unit,				
Tennessee Unit,				
Harrison Group (m)	Empire	Golden Empire Mining Company	Empire	Gold, Silver (c)
Wyoming (a)	Empire	Green River Mining Company	Green River, Wyo.	Gold, Silver (c)
Lake No. 2 Tunnel	Idaho Springs	Hireen Leasing Company	Idaho Springs	Gold, Silver, Lead,
Gem, Freighters' Friend (m)				Copper
Newton Mill	Idaho Springs	Idaho Mining Reduction & Transportation Tunnel Company	Idaho Springs	Gold, Silver, Lead,
				Copper
Kobold (a)	Idaho Springs	Heilig & Jaynes	Idaho Springs	Gold, Silver
Smuggler (a)	Silver Plume	Hollingsworth Mining Company	1220 Hippee Bldg.,	
			Des Moines, Iowa	Silver, Lead, Zinc
Josephine (a)	Silver Plume	Stella M. Stephens	Georgetown	Gold, Silver, Lead,
				Copper, Zinc
Jo Reynolds (a)	Lawson	Jo Reynolds Min., Mill., Dev., Tun. & Trans. Company	Idaho Springs	Gold, Silver, Lead,
				Zinc
Katinka (a)	Georgetown	Katinka Mining Company	Georgetown	Gold, Silver (c)
Limonite Tunnel (a)	Grant	Jack F. Kimberly & Company	Cassells	Gold, Silver (c)
Lincoln	Idaho Springs	Lincoln Mining & Milling Co.	Idaho Springs	Gold, Silver, Cop'r
Lincoln Group (a)	Idaho Springs	Lincoln Group Mines Company	Idaho Springs	Gold, Silver (c)
Prince Albert (b)	Lawson	Matrix Mines Company	Lawson	Gold, Silver (c)
Metals Tunnel (a)	Idaho Springs	Metals Tunnel Company	2555 W. 37th Ave., Denver	Gold, Silver (c)
M. & M. (a)	Idaho Springs	T. E. Ryan & Company	St. Charles, Ill.	Gold, Silver (c)

(a) Operated for part of the year only.

(b) Operations ceased during the year.

(c) No ore shipped during the year.

(m) Mill operated in connection with the mine.

OPERATING MINES IN CLEAR CREEK COUNTY, 1919—Concluded

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Mt. Kelso (a)	Silver Plume	B. J. Jeffrey and H. E. Decker	Silver Plume	Gold, Silver (c)
Mattie (a)	Idaho Springs	Mountain States Power & Min. Co.	Idaho Springs	Gold, Silver (c)
Potosi	Idaho Springs	Magnuson Brothers	Idaho Springs	Gold, Silver, Lead
Hoosac (a)	Fall River	New Life Tunnel & Mining Co.	Idaho Springs	Gold, Silver (c)
Pumpkin (a)	Lawson	Rupert Nelson	Lawson	Gold, Silver (c)
Onondaga (a)	Georgetown	Onondaga Mines Company	409 Boston Bldg., Denver	Gold, Silver, Lead, Copper
Orient (a)	Lawson	Rupert Nelson and G. L. Combs	Lawson	Gold, Silver (c)
Waldorf (a)	Georgetown	Pioneer Consolidated Mines Co.	Georgetown	Gold, Silver, Lead, Copper
Grad (m)	Empire	Primos Exploration Company	Boulder	Molybdenum
Gold Dirt (a)	Empire	Randolph Min., Mill., & Tun. Co.	214 Boston Bldg., Denver	Gold, Silver (c)
Roanoke (a)	Grant	Roanoke Mining & Milling Co.	221 Foster Bldg., Denver	Gold, Silver (c)
Log Cabin, Ottawa (a)(m)	Alice	Roosevelt Mining & Milling Co.	Alice	Gold
Back Bone (a)	Silver Plume	M. Rosenberg & Company	Silver Plume	Gold, Silver, Lead (c)
Bismark (a)	daho Springs	Peter Remonda	Idaho Springs	Gold, Silver, Lead
East Lake (a)	daho Springs	Hal Sayre	815 Logan St., Denver	Gold, Silver, Lead, Copper
Platts, Long, Big Chance (a)	Lawson	Smith, Lawson Company	128 Broadway, Denver	Gold, Silver (c)
Baltimore (a)	Silver Plume	Santiago Min., Mill. and Tun. Co.	Georgetown	Gold, Silver, Lead
Santiago	Georgetown	Santiago Consolidated Min., Mill. and Tun. Company	Georgetown	Gold, Silver, Lead
Seven Metals (a)	Georgetown	Seven Metals Mining Company	233 Coronado Bldg., Denver	Gold, Silver (c)
Silver Gem	daho Springs	Silver Gem Mining Company	437 1st Nat. B. Bdg., Denver	Gold, Silver (c)
St. George (a)	Georgetown	St. George Mine, Incorporated	Georgetown	Gold, Silver (c)
Sceptre-Sunburst (a)	Georgetown	Sunburst Consolidated Mines Co.	Equitable Bldg., Denver	Silver, Lead
Orinoco (a)	daho Springs	Surety Gold Mining Company	Idaho Springs	Gold, Silver (c)
Stanley (a)	daho Springs	Stanley Consolidated Mines Co.	Idaho Springs	Gold, Silver, Lead, Copper
Brown Mountain Tunnel	Silver Plume	Silver Plume Cons. Min. Co.	1221 Foster Bldg., Denver	Gold, Silver (c)

Calvin, Remington	Idaho Springs	Social Six Mining Company	1439 Larimer St., Denver	Gold, Silver (c)
Crown Point, Virginia (a)	Idaho Springs	Schoellkopf & Strohle	Idaho Springs	Gold, Silver (c)
Twin Ports and Empire (a)	Empire	Twin Ports & Empire Min. Co.	Empire	Gold, Silver (c)
Turner	Idaho Springs	United Freeland Development and Tunnel Company	Idaho Springs	Gold, Silver, Lead, Copper
Tobin, Imperial	Georgetown	United Imperial Mining Company	233 Coronado Bldg., Denver	Gold, Silver (c)
Mendota, Frostberg (a) (m)	Silver Plume	Wasatch-Colorado Mining Co.	Silver Plume	Gold, Silver, Lead, Zinc
Wasatch Mill				
Wide West (a)	Georgetown	Wide West Mining Company	514 Equitable Bldg., Denver	Gold, Silver (c)
Daniel Peters Lode (a)	Silver Plume	W. E. Burlingame	Box 628, Denver	Gold, Silver (c)
Two Brothers (a) (m)	Idaho Springs	Specie Payment Gold M. Co.	Idaho Springs	Gold, Silver
Lucky Friday	Silver Plume	Lucky Friday Mining Company	Silver Plume	Gold, Silver
Seaton (a)	Idaho Springs	H. E. Machol & Co.	Idaho Springs	Gold, Silver, Lead

OPERATING MINES IN CONEJOS COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Glacier (a)	Platoro	C. S. Barnes	Platoro	Gold, Silver (c)

- (a) Operated for part of the year only.
 (b) Operation ceased during the year.
 (c) No ore shipped during the year.
 (m) Mill operated in connection with the mine.

OPERATING MINES IN CUSTER COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Bassick, Maine No. 2	Querida	Querida Gold Mines Company	310 Exchange Nat. Bank Bldg., Colorado Springs	Gold, Silver (c)
Buffalo Hunter	Silver Cliff	Buffalo Hunter Mining, Milling & Development Co.	Silver Cliff	Silver
Denver, Thames River (a)	Westcliffe	Alexander Walker	Westcliffe	Silver
King of the Carbonates (a)	Westcliffe	J. T. Williams	Westcliffe	Silv., Lead, Copper
Maxine Elliott (a)	Westcliffe	A. B. Ferguson	Westcliffe	Silver
Passiflora	Westcliffe	Passiflora Mining & Milling Co.	Westcliffe	Silver
Peerless (a)	Hillside	Peerless Consolidated Copper Co.	428 Symes Bldg., Denver	Copper (c)
Bismuth, Black Friday				
Ten to One (a)	Silver Cliff	W. J. Preston	Silver Cliff	Silver
Last Quarter (a)	Silver Cliff	Last Quarter Mining Company	Silver Cliff	Silver
United Verde	Westcliffe	Verde Mining Company	Westcliffe	Silver (c)
Wentworth (a)	Westcliffe	Wentworth Mines Company	Westcliffe	Silver (c)
Palonia (a)	Rosita	Unity Mining & Milling Company	1025 S. Union Ave., Pueblo	Silver (c)
Silver Real (a)	Rosita	Fowler Mining & Development Co.	Fowler	Silver (c)
Silver Wedge and others	Westcliffe	Verde Mining & Milling Co.	Westcliffe	Silver (c)

OPERATING MINES IN DOLORES COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Big Three (a)	Rico	Big Three Min. & Mill. Co.	301 Central Blk., Pueblo	Gold, Silver (c)
Expectation Group (a)	Rico	Charles Engel	Rico	Gold, Silver (c)
Johnny Bull (a)	Rico	Gold Anchor Mining & Milling Co.	527 E. & C. Bldg., Denver	Gold, Silv., Copper
Pro Patria (a)	Rico	Marmatite Mining Company	Rico	Gold, Silver, Lead Zinc
Puzzle	Rico	McIntyre Mining Company	300 Sugar Bldg., Denver	Gold, Silver (c)
Mediterranean, Premier (a)	Rico	Robert L. Pellet	Rico	Gold, Silver (c)

Mount Pleasant	Dunton	Mount Pleasant Mining Company	Care Fillius, Fillius & Winters,, E. & C. Bldg., Denver	Gold, Silver (c)
Telegraph	Rico	Lee Nyquist & Company	Rico	Gold, Silver
Rico-Argentine (a)	Rico	Rico-Argentine Mining Company	Salt Lake City, Utah	Gold, Silver (c)
Rico-Wellington	Rico	Rico-Wellington Mining Company	11 Knight Blk., Provo, Utah	Gold, Silver
Rose-bud (a)	Dunton	Silver Gulch Min. & Mill. Co.	1023 St. Paul Ave., Milwaukee, Wis.	Silver
Syndicate	Rico	Syndicate Mining & Milling Co.	Rico	Gold, Silver, Lead Zinc
Iron	Rico	John Doyle Mining & Milling Co.	Rico	Gold, Copper (c)
Swickheimer Group	Rico	Emmet Nutter	Rico	Gold, Silver (c)

OPERATING MINES IN EAGLE COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Alpine (a)	Red Cliff	Alpine Mining & Milling Company	Red Cliff	Gold, Silv., Copper
Liberty	Red Cliff	Dismant Brothers	Red Cliff	Gold, Silver (c)
Eagle (m)	Gilman	Empire Zinc Co.	Box 1860, Denver	Silver, Lead, Zinc
Ground Hog (a)	Red Cliff	Ground Hog Tunnel & Mining Co.	California Bldg., Denver	Gold, Silver
Lady Bell (a)	Eagle	Horse Mountain M. & M. Corporat'n	Eagle	Silver
Packard (a)	Edwards	Packard Power & Mining Company	Edwards	Gold, Silver (c)
Tiger-Poorman (b)	Red Cliff	T. P. M. Leasing Company	Red Cliff	Gold, Silv., Copper
White Tunnel (a)	Gilman	D. G. White	Gilman	Silver (c)

(a) Operated for part of the year only.

(b) Operation ceased during the year.

(c) No ore shipped during the year.

(m) Mill operated in connection with the mine.

OPERATING MINES IN EL PASO COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Camp Creek (a)	Camp Creek	Camp Creek Mining & Milling Co.	2719 W. Bijou St., Colorado Springs.	Gold, Silver (c)

OPERATING MINES IN GILPIN COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Hampton	Central City	Amherst Mining Company	517 Cooper Bldg., Denver	Gold, Silver, Lead, Copper
St. Johns (a)	Blackhawk	Bradford Mines Company	Central City	Gold, Silver (c)
American Eagle	Blackhawk	Boston-Gilpin Mines Company	Central City	Silver, Lead (c)
Elmore Tunnel (a)	Blackhawk	William Boardman	Idaho Springs	Gold, Silver (c)
Silver King (a)	Blackhawk	T. G. Binney and C. F. Davies	Central City	Gold, Silver (c)
Atlantic (a)	Blackhawk	Denver Mining Pool	319 Guardian Trust Bldg., Denver	Gold, Silver (c)
Druid (a)	Central City	Druid Gold Mining Company	414 Boston Bldg., Denver	Gold, Silv., Copper
Evergreen	Apex	Evergreen Mines Company	408 Empire Bldg., Denver	Copper (c)
Frontenac	Russell Gulch	Frontenac Leasing Company No. 2	Russell Gulch	Gold, Silv., Copper
Fannie (a)	Blackhawk	Fannie B. Mining Company	213 Coronado Bldg., Denver	Gold, Silver (c)
Chase	Central City	Gilgado Mining Company	512 Equitable Bldg., Denver	Gold, Silv., Copper
Gauntlet	Central City	Gauntlet Gold Mining Company	Boston Bldg., Denver	Gold, Silver (c)
Eureka Mine, Gilpin-Eureka Mill (m)	Blackhawk	Gilpin-Eureka Mines Company	Central City	Gold, Silver, Lead, Copper
For Far (a)	Russell Gulch	Hammond & Jenkins	1325 Milwaukee St., Denver	Gold, Silv., Copper
Hubert	Bald Mountain	Hubert Mining & Leasing Co.	Box 1799, Denver	Gold, Silver, Lead, Zinc
Cyclops, Peru, Alaska (a)	Blackhawk	Midwest Mining & Milling Co.	Blackhawk	Gold, Silver (c)
Columbia Tunnel (a)	Central City	McCambell Leasing Company	Central City	Gold, Silver (c)
Notaway 407	Blackhawk	William Mitchell	Central City	Gold, Silver
Frances (a)	Central City	Matt Daniels & Company	Central City	Gold, Silver (c)

Becky Sharp	Russell Gulch	Old Town Min., Mill. & Tun. Co.	Idaho Springs	Gold, Silv., Copper
Pearce (a)	Russell Gulch	Pearce Gold Mining Company	Sec. F 1 & 2 Washington Market, New York City	Gold, Silver (c)
Powers (a)	Central City	Powers Mining & Milling Company	Central City	Gold, Silver (c)
Bryan	Blackhawk	O. C. Redick Mining Company	Omaha Nat. Bnk, Omaha, Neb.	Gold, Silver (c)
Rochester (a)	Russell Gulch	Rochester Min. & Mill. Company	Russell Gulch	Gold, Silver (c)
Star of the West (a)	Central City	Star of the West Gold Mining Co.	Central City	Gold, Silver (c)
Star Tunnel (a)	Blackhawk	Star Tunnel & Mining Company	215 Coronado Bldg., Denver	Gold, Silver (c)
Saco de Oro	Apex	Saco de Oro Mining & Milling Co.	511 Mack Bldg., Denver	Gold, Silver, Copper (c)
Homer (a)	Central City	Taylor Mines Company	Central City	Gold, Silver (c)
Congress	Blackhawk	Toronto Mining Company	401 Jacobson Bldg., Denver	Gold, Silver (c)
Ward	Tolland	Ward Mining & Milling Company	415 Frick Bg., Pittsburgh, Pa.	Gold, Silver (c)
Fairfield (a)	Russell Gulch	J. C. Webb	Russell Gulch	Gold, Silv., Copper
Albert Tunnel	Blackhawk	M. T. Chestnut & Son	Blackhawk	Gold, Silver (c)

OPERATING MINES IN GRAND COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Mary-Florence	Paushall	Mary Florence Mining, Milling and Leasing Co.	758 Corona St., Denver	Gold, Silver (c)

OPERATING MINES IN GUNNISON COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Akron	Whitepine	James E. Dick, Agent	Whitepine	Silver, Copper
Augusta (b)	Crested Butte	A. P. McCarver	Box 193, Ouray	Silver (c)
Carter (a)	Ohio City	Carter Mines Company	Ohio City	Gold, Silver (c)
Forest Queen	Irwin	Crested Butte Mining Company	Crested Butte	Silver (c)
Dreckshage	Gothic	Dreckshage Mining & Tunnel Co.	Crested Butte	Silver (c)
Gunnison Copper (a)	Gunnison	Gunnison Copper Company	Gunnison	Copper (c)

(a) Operated for part of the year only.
 (b) Operations ceased during the year.

(c) No ore shipped during the year.
 (m) Mill operated in connection with the mine.

OPERATING MINES IN GUNNISON COUNTY, 1919—Concluded

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Headlight	Idaho	Headlight Gold Min. & Mill. Co.	501 Symes Bldg., Denver	Gold, Silv., Copper
Morning Glory (a)	Pitkin	James Harbaugh	Pitkin	Gold, Silver (c)
Queen	Idaho City	Queen Mining Company	Ohio City	Gold, Silver
Star Group (a)	Idaho City	John M. Larson	Aspen	Gold, Silver (c)
Victor	Whitepine	Donald Dyrenforth	Whitepine	Gold, Silver
Doctor	Idaho	Wick Mines Company	Almont	Silver, Lead, Zinc
Good Hope (a)	Idaho	Good Hope Mining & Reduction Co.	1531 Welton St., Denver	Gold, Silver
Red Bird	Idaho	John R. Sapp	Almont	Gold, Silver
Bon Ton (a)	Pitkin	Pennsylvania Molybdenum Mines Co.	Pitkin	Gold, Silver
Gold Cup (a)	Pitkin	Federal Reserve Mines Company	Pitkin	Gold, Silver
Brittle Silver (a)	Sherrod	Liberty Gold Mining & Milling Co.	508 Mining Exch'ge B., Denver	Gold, Silver
H. S. M. I. (a)	Crested Butte	H. S. M. I. Mining Co.	Crested Butte	Gold, Silver (c)
Camp Bird	Pitkin	Camp Bird Mining, Leasing and Power Co.	Pitkin	Gold (c)

OPERATING MINES IN HINSDALE COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Belle of the West	Lake City	F. S. Williams & Company	Lake City	Silver
Coburg (a)	Lake City	Coburg Mining Company	Lake City	Gold, Silver, Lead, Copper (c)
Golconda (a)	Lake City	Golconda Mines Consolidated	Lake City	Gold, Silver
Golden Fleece (m)	Lake City	Golden Fleece Min. & Mill. Co.	816 Foster Bldg., Denver	Gold, Silver
Ocean Wave (a)	Lake City	Ocean Wave Min. & Reduction Co.	830 Equitable Bldg., Denver	Gold, Silver (c)
Lillie (a)	Lake City	Silvermane Mines Company	Lake City	Gold, Silver, Lead, Copper
Fannie Fern (a)	Lake City	St. Anthony Lease Mines Company	Montrose	Gold, Silver, Lead, Copper
Sulphurette Group	Lake City	Sulphurette Min. & Reduction Co.	Lake City	Silver

OPERATING MINES IN JACKSON COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Village Bell (a)	Cowdrey	Village Bell Gold & Copper Co.	Cowdrey	Gold, Silver, Copper (c)
Wolverine (a)	Cowdrey	Burr Lobdell	Cowdrey	Gold, Silver, Copper (c)
North Park (a)	Walden	North Park Min. & Mill. Co.	Walden	Gold, Silver (c)

OPERATING MINES IN LA PLATA COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Allard (a)	La Plata	Allard Mining Company	Mancos	Gold (c)
Eagle Pass, Bodie & Roosevelt (a)	May Day	Eagle Pass Min. & Mill. Co.	627 1st Nat. Bank Bldg., Denver	Gold, Silver
Jumbo	May Day	Jumbo Mining Company	Durango	Silver
Ten Broeck	May Day	Lewis Mountain Min. & Mill. Co.	223 Symes Bldg., Denver	Gold, Silver (c)
Idaho (a)	May Day	George W. Gilmore	Durango	Gold, Silver
Taylor Tunnel, Cornell, Mt. Edna (a)	La Plata	Boren Gulch Mining Company	La Plata	Gold, Silver (c)

(a) Operated for part of the year only.

(c) No ore shipped during the year.

(m) Mill operated in connection with the mine.

OPERATING MINES IN LAKE COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Yak	Leadville	American Smelting & Refining Co.	Leadville	Gold, Silver, Lead, Zinc
A. V.	Leadville	A. V. Lease	Leadville	Manganese
Burnett (b)	Leadville	Burnett Lease	Leadville	Silver (c)
Breece	Leadville	Breece Mining Company	Leadville	Gold, Silver
Gambetta, Little Chief	Leadville	W. E. Bowden	Leadville	Silver, Lead
Ollie Reed No. 2	Leadville	Frank E. Barry & Company	704 E. 6th St., Leadville	Gold, Silver, Lead
Little Jonny	Leadville	C. and G. Lease	Leadville	Gold, Silver
Catalpa (b)	Leadville	Cramer & Company	Leadville	Manganese
Crescent (b)	Leadville	Cramer & Company	Leadville	Manganese
Chrysolite	Leadville	M. L. Buchanan & Company	Leadville	Silver
Penrose and others	Leadville	Down Town Mines Company	Leadville	Gold, Sil., Copper, Lead, Zinc, Mang.
C. J. Dold (a)	Leadville	C. J. Dold Mining Company	Leadville	Silver, Lead, Manganese
Denver City (a)	Leadville	Denver City Cons. Silver Min. Co.	Leadville	Zinc
Dinero	Leadville	Dinero Mining & Tunnel Company	Leadville	Gold, Silver
Dunkin (a)	Leadville	Dunkin Mining Company	Leadville	Silver
Garbutt	Leadville	John Cortellini	Leadville	Gold, Silver
Small Hopes (a)	Leadville	John Cortellini	Leadville	Zinc
Fairview (b)	Leadville	Fairview Lease	Leadville	Manganese
Fidelity (a)	Twin Lakes	Fidelity Min., Mill. & Power Co.	Twin Lakes	Gold, Sil., Copper
Blaine Shaft	Leadville	Forest City Lease	Leadville	Zinc
Jason (b)	Leadville	General Mines Company	515 Jacobson Bldg., Denver	Manganese
Greenback (b)	Leadville	Greenback Mining Company	306 Colorado Nat. Bk. Bldg., Denver	Silver, Lead
Lilian	Leadville	Hersey & Murcray	Leadville	Silver, Lead, Zinc
Burns Shaft	Leadville	Highland Min. & Mill. Company	Leadville	Gold, Silver (c)
Gnome Shaft (a)	Leadville	Izard Lease	Leadville	Gold, Silver, Lead
Marian & Pyrenees (b)	Leadville	Iron Silver Mining Company	Leadville	Silver, Lead, Zinc

Kanawha (a)	Leadville	Kanawha Gold Mining Company	Leadville	Gold, Silv., Copper
Lida (a)	Leadville	Lida Leasing Company	Leadville	Silver, Lead (c)
Little Giant (a)	Leadville	Little Giant Lease	Leadville	Manganese
Carbonate Shaft (a)	Leadville	Hagerman Lease	Leadville	Manganese
Valley Shaft (a)	Leadville	John Gregory	Leadville	Gold, Silver, Lead
Platt (a)	Leadville	Platt Lease	Leadville	Silver, Lead
Mikado-Callagher (a)	Leadville	Mikado Lease	Leadville	Zinc
Griffin (a)	Leadville	L. W. Smith, Trustee	Leadville	Gold, Silver (c)
New Monarch	Leadville	New Monarch Mining Company	Leadville	Silver, Lead
Dolomite (a)	Leadville	John Cortellini	Leadville	Gold, Silver (c)
P. O. S. (b)	Leadville	John Cortellini	Leadville	Silver, Lead (c)
La Plata	Leadville	Nord Lease	Leadville	Gold, Silver, Lead
Rare Metal Group (a)	Climax	Pingrey Mines & Ore Reduction Co.	322 Century Bldg., Denver	Molybdenum (c)
Porter Shaft (a)	Leadville	M. L. Buchanan	Leadville	Manganese
Robert E. Lee	Leadville	Robert E. Lee Lease	Leadville	Silver
Seneca	Leadville	W. D. Bowden	Leadville	Gold, Silver
Star	Leadville	Cramer & Co., M. L. Buchanan, Down Town Mines Company	Leadville	Silver, Lead, Man- ganese
Sunday (a)	Leadville	Ezra D. Dickerman & Co.	Leadville	Gold, Silver, Lead
Kennebec (a)	Leadville	Western Zinc Concentrating Co.	Leadville	Silver, Lead
Maid	Leadville	Cramer & Company	Leadville	Silver, Lead, Man- ganese
South Moyer	Leadville	William Carson Lease	Leadville	Silver, Lead, Zinc
Blonger (b)	Leadville	Pittsburgh Lease (M. L. Buchanan)	Leadville	Silver (c)
Long & Derry (a)	Leadville	Harry Schraeder	Leadville	Silver, Lead (c)
Rishie (a)	Leadville	M. J. Brady & Co.	Leadville	Silver, Lead (c)
Adelaide (a)	Leadville	Oscar Kerppan & Co.	Leadville	Silver
A. Y. & Minnie	Leadville	John A. Ewing, Agent	Leadville	Silver, Lead
Matchless	Leadville	Matchless Mining Company	Leadville	Gold, Silver

(a) Operated for part of the year only.

(c) No ore shipped during the year.

(b) Operation ceased during the year.

OPERATING MINES IN MINERAL COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Fluorspar (m)	Wagon Wh'l Gap	American Fluor Spar Mining Co.	Wagon Wheel Gap.	Fluorspar
Amethyst (a)	Creede	Amethyst Leasing Company	Creede	Gold, Silver, Lead
Bachelor	Creede	N. G. Corson	Creede	Silver
Last Chance, New York.				
Del Monte	Creede	D. M. & Chance Mining Company	Creede	Gold, Silver, Lead
Commodore (a)	Creede	Van Horn & Company	Creede	Gold, Silver, Lead
Manitoba	Creede	Manitoba Leasing Company	Creede	Silver
Monon	Creede	Wabash Mines & Power Co.	Creede	Silver
Homestake (a)	Creede	Mammoth Min. & Developing Co.	Room 111, 519 Main St., Cincinnati, Ohio	Silver (c)
Silver King (a)	Creede	Silver King Leasing Company	Creede	Silver (c)
Solomon (b)	Creede	C. M. S. Mines Company	Creede	Silver (c)
Acanthus (a)	Creede	Creede Contact Mining Company	Creede	Silver (c)
Equity	Creede	Equity-Creede Mining Co.	Creede	Silver (c)

OPERATING MINES IN MONTROSE COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Cashir (a)	Bedrock	Michigan-Colorado Copper Co.	Bedrock	Copper, Silver (c)
Club Group and others (m)	Paradox Valley	Standard Chemical Company	Naturita	Carnotite
Henry Clay and others	Paradox Valley	Radium Company of Colorado	Naturita, or 2001 E. Colfax Ave., Denver	Carnotite
Cripple Creek and others (a)	Paradox Valley	Radium Luminous Material Co.	Naturita	Carnotite

Note: Several other carnotite properties were operated intermittently during the year.

OPERATING MINES IN OURAY COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Bachelor-Khediye	Ouray	J. F. Keleher	Ouray	Gold, Silver (c)
Barstow (m)	Red Mountain	Barstow Leasing Company	Ouray	Gold, Silver
Atlas (m)	Sneffles	Atlas Min. & Mill. Company	Sneffles	Gold, Silver, Lead
Chipeta	Ouray	Chipeta Min., Mill. & Smelt. Co.	Ouray	Gold, Silver (c)
El Mahdi-Khediye (a)	Ouray	John Fellin & Company	Ouray	Gold, Silver (c)
Camp Bird (m)	Sneffles	Camp Bird Tunnel, Mining & Transportation Co.	Colo. Nat. Bank Bldg., Denver	Silver (c)
Guadaloupe	Ironton	Guadaloupe Mines Company	Ouray	Gold, Silver
H. A. C. (a)	Ouray	H. A. C. Tunnel & Mining Co.	Ouray	Gold, Silver (c)
Humboldt	Sneffles	Smuggler-Union Mining Company	Telluride	Gold, Silver, Lead
Legal Tender (a)	Ouray	Legal Tender Explorat'n Mines Co.	Ouray	Gold, Silver (c)
L. L. (b)	Ouray	L. L. Mining & Tunnel Co.	Ouray	Gold, Silver (c)
Mountain King (a)	Ironton	Mountain King Mining Co.	8 S. 40th St., Philadelphia, Pennsylvania	Gold, Silver (c)
Mountain Top (m)	Sneffles	Mountain Top Mining Company	Ouray	Gold, Silver, Lead
Thistledown (a)	Ouray	Mt. Hayden Min. & Mill. Co.	Ouray	Gold, Silver, Lead (c)
Newsboy (a)	Ouray	Newsboy Mining & Milling Co.	Ridgway	Gold, Silver
Genesee, Vanderbilt, Yankee Girl, and others (m)	Red Mountain	Red Mountain Mines Company	414 Boston Bldg., Denver	Gold, Silver, Lead, Copper
Senorita (a)	Ouray	Ward & Donald	Box 543, Ouray	Silver
Silver Link (a)	Ouray	Silver Link Mining Company	1354 Broadway, New York	Gold, Silver (c)
Kentucky Giant, Indiana (a)	Ironton	Silver Mountain Mines Company	Ouray	Gold, Silver (c)
Uncle Sam (a)	Ouray	R. Ochs & Company	Box 517, Ouray	Gold, Silver (c)
Wedge	Ouray	J. F. Keleher & H. J. Carney	Ouray	Gold, Silver (c)
White Cloud (a)	Ironton	Orange County Investment Co.	1st Nat. Bank Bldg., Denver	Gold, Silver (c)

(a) Operated for part of the year only.

(b) Operation ceased during the year.

(c) No ore shipped during the year.

(m) Mill operated in connection with the mine.

OPERATING MINES IN PARK COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Champaigne (a)	Alma	L. J. Almgren & Company	Alma	Gold, Silver (c)
Magnolia (a)	Alma	Commonwealth Mining Company	311 Foster Bldg., Denver	Gold, Silver (c)
Fanny Barrett (a)	Alma	Fanny Barrett Min. & Leas. Co.	317 Exchange Nat. Bank Bldg., Colorado Springs	Manganese
Funston (a)	Alma	Bustard Brothers	Alma	Gold, Silver (c)
Gold Wave (a)	Alma	A. E. Chapman & Company	Alma	Gold, Silver (c)
Hill Top	Fairplay	Hill Top Silver Mining Co.	Equitable Bldg., Denver	Gold, Silver (c)
Hock Hocking (a)	Alma	Hock Hocking Mining Company	509 Exchange Bldg., Denver	Gold, Silver, Lead
Russia (a)	Alma	K. C. Huston & Company	Alma	Gold, Silver
London	Alma	London Min. & Mill. Company	Alma	Gold, Silver, Lead
Dolly Varden Mine, Louisiana-Colorado Mill (a) (m)	Alma	Louisiana-Colorado Mining Co.	521 Denham Bldg., Denver	Gold, Silver, Lead
May Queen (a)	Alma	W. H. Bean	Alma	Gold, Silver (c)
Mill Gulch	Ruffey	Mill Gulch Mining Company	1018 E. Boulder St., Colo- rado Springs	Copper (c)
Missouri (a)	Cassells	Oliver & Snyder	Cassells	Gold, Silver (c)
No End (a)	Alma	No End Lease	Leadville	Gold, Silver (c)
Holl (a)	Alma	Reserve Mining Company	340 Gas and Electric Bldg., Denver	Gold, Silver (c)
Whale (a) (m)	Cassells	Whale Mines, Leas. & Reduc. Co.	1454 Marlon St., Denver	Silver, Lead, Copper
Orphan Boy (a)	Alma	E. R. Young & Company	412 Foster Bldg., Denver	Gold, Silver (c)
Sweet Home (a)	Alma	Howard Kauffman	Alma	Gold, Silver (c)
Weber (a)	Alma	F. A. Weber	Alma	Gold, Silver (c)
Rainbow (a)	Alma	Edwards & Butler	Alma	Gold, Silver (c)

OPERATING MINES IN PITKIN COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Hope	Aspen	Hope Min., Mill. & Leas. Co.	Aspen	Silver, Lead (c)
Hurricane	Aspen	Hurricane Mining & Milling Co.	Aspen	Silver, Lead (c)
Mary B. (a)	Aspen	Thomas F. Hynes & Company	Aspen	Silver, Lead (c)
Newman	Aspen	Newman Min., Mill. & Leas. Co.	Aspen	Silver, Lead
Oakland (a)	Aspen	Oakland Min., Mill. & Leasing Co.	Aspen	Silver, Lead (c)
Park Tunnel	Aspen	Park Tunnel Min. & Mill. Co.	Aspen	Silver, Lead (c)
Pride of Aspen (a)	Aspen	W. R. Fautz & Company	Aspen	Silver
Little Annie (a)(m)	Aspen	Richmond Hill M., M. & Leas. Co.	Aspen	Silver, Lead
Smuggler and others (m)	Aspen	Smuggler Leasing Company	Aspen	Silver, Lead
Spar	Aspen	Spar Consolidated Mining Company	Aspen	Silver, Lead
Eclipse (a)	Aspen	Ernest Salisbury & Co.	Aspen	Silver, Lead (c)
Copperopolis (a)	Aspen	John Peterson & Company	Aspen	Silver, Lead (c)
Midnight (a)	Aspen	Midnight Mining Company	Aspen	Sil., Lead, Cop'r(c)

OPERATING MINES IN RIO BLANCO COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Continental (a)	Rio Blanco.	Continental Oil Shale Mining & Refining Co.	464 Gas & Elec. Bg., Denver	Shale Oil (d)

OPERATING MINES IN RIO GRANDE COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Miser (a)	Platoro	Miser Gold Min. & Mill. Co.	909 Equitable Bdg., Denver	Gold, Silver (c)

(a) Operated for part of the year only.
(c) No ore shipped during the year.

(d) No commercial production.
(m) Mill operated in connection with the mine.

OPERATING MINES IN ROUTT COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Master Key (a)	Columbine	Master Key Mining Company	403 Empire Bldg., Denver	Gold, Silver (c)
Minnie D. (a)	Columbine	Peter Boyle	Columbine	Silver

OPERATING MINES IN SAGUACHE COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Cocomongo (a)	Bonanza	Cocomongo Mines Company	552 Ohio Bldg., Toledo, Ohio	Silver, Lead

OPERATING MINES IN SAN JUAN COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Joe & John (a)	Red Mountain	Allerton Mining & Milling Co.	Silverton	Gold, Silver (c)
Caledonia (a) (m)	Eureka	Caledonia Mining & Milling Co.	Eureka	Silver, Lead
Congress (a)	Silverton	Congress Gold & Copper Co.	Silverton	Gold, Silv., Copper
Buffalo Boy (a)	Silverton	Continental Mining Company	Silverton	Gold, Silver (c)
Lackawanna (a)	Silverton	D. L. & W. Min. & Reduc. Co.	629 Davidson Bldg., Sioux City, Iowa	Gold, Silver (c)
Dora (a)	Silverton	Dora Consolidated Mines Co.	Silverton	Gold, Silver
Early Bird (a)	Silverton	Early Bird Min. & Mill. Co.	409 Central Bldg. Pueblo	Gold, Silver
Columbus (a)	Eureka	Gnome Mining Company	Eureka	Gold, Silver (c)
Gold King (a) (m)	Leadstone	Gold King Extension Mines Co.	Silverton	Gold, Silver (c)
Henrietta (a)	Red Mountain	Henrietta Copper Mining Co.	Silverton	Gold, Silv., Copper
Sultana (b)	Silverton	Sultana Mining Company	606 Metropolitan Bld. Denver	Gold, Silver (c)
Little Nation	Howardsville	Little Nation Mining Company	Howardsville	Gold, Silver, Lead, Copper
Shenandoah (a)	Howardsville	O. S. Leasing Company	Durango	Gold, Silver

Pyramid (a)	Silverton	Pyramid Mining Company	Silverton	Gold, Silver (c)
St. Paul (a)	Red Mountain	St. Paul Mining & Reduc. Co.	Silverton	Gold, Silver, Lead, Copper
Carbon Lake or San Antonio (a)	Red Mountain	Summit Copper Min. & Mill. Co.	Iron-ton	Sil., Lead, Cop. (c)
Sunnyside (a) (m)	Eureka	Sunnyside Mining & Milling Co.	Eureka	Gold, Silver, Lead, Copper, Zinc
Telescope (a)	Silverton	Telescope Mountain Mining Co.	32 Midland Blk., Colorado Springs	Gold, Silver (c)
Silver Ledge	Silverton	Silver Ledge Leasing Co.	Silverton	Gold, Silver, Lead
Highland Mary (a)	Silverton	Highland Mary Leasing Company	Silverton	Gold, Silver, Lead
Iowa	Silverton	Melville Leasing Company	Silverton	Gold, Silver, Lead
Mayflower (b)	Silverton	Mayflower Leasing Company	Silverton	Gold, Silver, Lead
Ruby Basin (a)	Red Mountain	Radiant Mining & Reduction Co.	Silverton	Gold, Silver
Coming Wonder	Silverton	Anvil Leasing Company	Silverton	Gold, Silv., Copper
Dives, Tribby	Howardsville	Dives Leasing Company	Durango	Gold, Silver, Lead
Elk (a)	Silverton	Elk Mining & Milling Co.	Silverton	Gold, Silver (c)

OPERATING MINES IN SAN MIGUEL COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Alta (a) (m)	Telluride	Belmont-Wagner Mining Co.	Telluride	Gold, Silver, Lead
Cimarron (a) (m)	Telluride	John M. Wagner	Telluride	Gold, Silver
Black Bear	Telluride	Colorado-Superior Min. Company	Telluride	Gold, Silver, Lead, Copper and Zinc
Bear Creek, Black Dragon (a) (m)	Sawpit	Colorado Vanadium Corporation	Sawpit	Vanadium (c)
Liberty Bell (m)	Telluride	Liberty Bell Gold Mining Co.	Telluride	Gold, Silver
Matterhorn Mine	Ames	Matterhorn Mining & Milling Co.	Ames	Gold, Silver
Butterfly Mill (a) (m)	Ames	Ophir Gold Mines & Reduction Co.	Ophir	Gold, Silver, Lead, Copper (c)
New Dominion (a)	Ames	Ophir Gold Mines & Reduction Co.	Ophir	Gold, Silver, Lead, Copper (c)

(a) Operated for part of the year only.
(b) Operation ceased during the year.

(c) No ore shipped during the year.
(m) Mill operated in connection with the mine.

OPERATING MINES IN SAN MIGUEL COUNTY, 1919—Continued

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Fall Creek, Placerville, Vanadium Mill (a) (m)	San Bernardo, Valley View (a)	Primos Chemical Company	Vanadium	Vanadium
Shamus O'Brien (a)	Ames	Valley View Leasing & Mining Co.	Ames	Gold, Silver (c)
Smuggler-Union (m)	Ames	Silver Canon Mining Company	928 Foster Bldg., Denver	Gold, Silver (c)
Summit (m)	Telluride	Smuggler-Union Mining Co.	Telluride	Gold, Silver, Lead
Tomboy (m)	Ophir	Summit Metal Mines Corporation	Telluride	Gold, Silver (c)
Carbonero	Telluride	Tomboy Gold Mines Co., Ltd.	Telluride	Gold, Silver, Lead
	Ophir	Ruutilla & Brown	Ophir	Gold, Silver, Lead

OPERATING MINES IN SUMMIT COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Laurium (a)	Breckenridge	Blue Flag Gold Mining Co.	703 Exchange Bdg., Denver	Gold, Silver (c)
Governor (a)	Breckenridge	Boyce Brothers	Breckenridge	Gold, Silver (c)
Burke (a)	Montezuma	J. W. Burke & Company	Montezuma	Gold, Silver (c)
Elk Mountain (m)	Kokomo	Elk Mountain Mines Company	Kokomo	Gold, Silver, Lead
Four-Most (a)	Frisco	Four-Most Mining & Milling Co.	509 Pennsylvania St., Denver	Gold, Silver, Lead
Iron Mask (a)	Breckenridge	Iron Mask Lease	Breckenridge	Gold, Silver, Lead
Jerry or Hancock	Montezuma	H. E. McCray	Montezuma	Silver, Lead
Jessie	Breckenridge	George F. Roth	Breckenridge	Gold, Silver (c)
June Bug	Breckenridge	Boyce Brothers	Breckenridge	Silver, Lead
Liberty (a)	Montezuma	Liberty Mining & Reduction Co.	Cooper Bldg., Denver	Gold, Silver, Lead
Stilson Paich, Ada (a)	Breckenridge	Charles Godfrey & Company	Breckenridge	Silver
Marlin (a)	Montezuma	Marlin, Min. & Power Co.	Montezuma	Gold, Silver (c)
Mollie B. (a)	Breckenridge	Mollie B. Min. & Mill. Co.	Holyoke	Gold, Sil., Copper, Bismuth
More Work, St. Johns				
Philadelphia (a) (m)	Montezuma	Montezuma Cons. Silver Mines Co.	\$01 Magee Bg. Pittsburg, Pa.	Silver, Lead, Zinc

Silver Queen	Kokomo	Mutual Co-operative Mining Co.	206 Masonic Temple, Denver	Silver
Price	breckenridge	Price Lessees	Breckenridge	Gold, Silver, Lead
Morgan	Intezuma	Persistent Mill, Leas. & Min. Co.	1331 Lawrence St., Denver	Gold, Silver, Lead
Woodrow Wilson	breckenridge	Quandary Queen Mines Company	613 Kittredge Bldg., Denver	Silver
King	Kokomo	To Ka Han Development & Min. Co.	Kokomo	Gold, Silver (c)
Warriors Mark (a)	breckenridge	Warriors Mark Mining Co.	Breckenridge	Gold, Silver (c)
Wellington (m)	breckenridge	Wellington Mines Company	Breckenridge	Silver, Lead, Zinc
Winn (b)	Breckenridge	Charles Godfrey	Breckenridge	Gold, Silver (c)
Royal Tiger (m)	Tiger	Royal Tiger Mines Co.	Tiger	Gold, Silver, Lead, Bismuth
Michigan	Kokomo	W. E. Bowden	Leadville	Silver
Westmorland (a)	Kokomo	O. E. Williams	Kokomo	Silver (c)

OPERATING MINES IN TELLER COUNTY, 1919

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Burns (a)	Cripple Creek	L. F. LeBrun	Cripple Creek	Gold
Anchoria-Leland	Cripple Creek	Anchoria-Leland Min. & Mill. Co.	Colorado Springs	Gold (c)
Blue Flag	Cripple Creek	Blue Flag Gold Mining Co.	703 Exchange Bldg., Denver	Gold (c)
Blue Bird (a)	Cripple Creek	Buckeye Mines & Milling Co.	Box 468, Colorado Springs	Gold
Cresson	Cripple Creek	Cresson Cons. Gold M. & M. Co.	Colorado Springs	Gold
Block 8 School Sec. (a)	Cripple Creek	Co-operative Min. & Dev. Co.	936 W. Colorado Ave., Colorado Springs	Gold
Fortuna	Cripple Creek	Cripple Creek Gold Mining Co.	Victor	Gold (c)
Dante (a)	Cripple Creek	Dante Mining & Milling Company	224 Temple Court B., Denver	Gold
Dexter	Cripple Creek	Anderson & Benkelman	Victor	Gold
Alpha and Omega (a)	Cripple Creek	Dig Gold Mining Company	Victor	Gold (c)
Joe Dandy	Cripple Creek	Eclipse Leasing Company	402 Bennett Bldg., Colo- rado Springs	Gold
Elkton	Cripple Creek	Elkton Cons. M. & M. Co.	Colorado Springs	Gold
El Paso	Cripple Creek	El Paso Cons. Gold Mining Co.	Cripple Creek	Gold
Index	Cripple Creek	El Paso Ext'n Gold Mines Corp'n	Cripple Creek	Gold

(a) Operated for part of the year only.

(b) Operation ceased during the year.

(c) No ore shipped during the year.

(m) Mill operated in connection with the mine.

OPERATING MINES IN TELLER COUNTY, 1919—Concluded

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Conundrum	Cripple Creek	Ethel Louise	Gold Mining Co.	Colorado Springs
Findley	Cripple Creek	Findley Mines Company		Cripple Creek
Forest Queen	Cripple Creek	Forest Queen Mines Company	612 E. & C. Bldg.,	Denver
Gold Sovereign	Cripple Creek	Gold Sovereign Min. & Tun. Co.	223 Burns B.,	Colorado Spgs.
Granite	Cripple Creek	Granite Gold Mining Co.	Box 22, Colorado	Springs
Granite Hill (a)	Cripple Creek	Granite Hill Min. & Mill. Co.	Box 178, Colorado	Springs
Jerry Johnson	Cripple Creek	Jerry Johnson Gold Mining Co.	822 E. & C. Bldg.,	Denver
Homestake (a)	Cripple Creek	Lincoln Mines & Reduction Co.	Cripple Creek	Gold (c)
Mary McKinney	Cripple Creek	Mary McKinney Mining Co.	Anaconda	Gold
Star of Bethlehem	Cripple Creek	Mining Development Company	Cripple Creek	Gold (c)
Last Dollar-Modoc	Cripple Creek	Modoc Consolidated Mines Co.	Tabor Op. House Bg.,	Denver
Portland (m)	Cripple Creek	Portland Gold Mining Company	Colorado Springs	Gold
Reno (b)	Cripple Creek	Reno Mining & Milling Company	Box 178, Colorado	Springs
Rose Nicol	Cripple Creek	Reva Mining Company	935 Foster Bldg.,	Denver
Sacramento (a)	Cripple Creek	Sacramento Gold M. & M. Co.	Box 178, Colorado	Springs
American Eagles	Cripple Creek	Stratton Cripple Creek M. & D. Co.	Cripple Creek	Gold
Orpha May	Cripple Creek	J. H. White	Cripple Creek	Gold
Specimen	Cripple Creek	Patterson-Bradley Leasing Co.	Cripple Creek	Gold
Longfellow	Cripple Creek	Excelsior M. & M. & Explor. Co.	Interstate Trust Bg.,	Denver
Los Angeles and Six Points	Cripple Creek	Larson & Axelson	Victor	Gold
Deerhorn	Cripple Creek	W. C. Green	Cripple Creek	Gold
Lillie	Cripple Creek	Gus Kelstrom	Cripple Creek	Gold
Callie	Cripple Creek	McGee & Day	Cripple Creek	Gold
Strong (a)	Cripple Creek	Owen Roberts	Victor	Gold
Vindicator (m)	Cripple Creek	Vindicator Cons. Gold Mining Co.	603 Symes Bldg.,	Denver
Trail (a)	Cripple Creek	Wilson & Company	121 Silver St.,	Cripple Creek
Columbine Tunnel (a)	Cripple Creek	United Gold Mines Company	Cripple Creek	Gold
War Eagle (a)	Cripple Creek	War Eagle Consolidated Mines Co.	115 N. 3rd St.,	Cripple Creek
Zenobia (b)	Cripple Creek	Zenobia Gold Mining Co.	Box 178, Colorado	Springs
Isabella	Cripple Creek	Isabella Mines Company	Cripple Creek	Gold
Red Bird (a)	Cripple Creek	Cotton Tail Mining Company	Cripple Creek	Gold (c)

(a) Operated for part of the year only.

(c) No ore shipped during the year.

(b) Operation ceased during the year.

(m) Mill operated in connection with the mine.

OPERATING GOLD DREDGES, 1919

Town	Location	County	Operator	P. O. Address
Leadville	Lake	Derry Ranch Gold Dredging Co.	Leadville
Breckenridge	Summit	Powder River Gold Dredging Co.*	San Francisco, Calif.
Breckenridge	Summit	Blue River Dredging Co.*	1718 California St., Denver
Breckenridge	Summit	Tonopah Placers Company (3 dredges)	Breckenridge
Breckenridge	Summit	French Gulch Dredging Co.	Box 1038, Colorado Springs

*The Blue River D. Co. purchased the dredge of the Powder River G. D. Co. in October, 1919.



OPERATING QUARRIES AND CLAY PITS, 1919

Location		Character of Product		Operator	P. O. Address
Town	County	Name			
Garfield	Chaffee	Ohio & Colorado	Limestone	L. N. Felton	Garfield
Garfield	Chaffee	Doctor	Limestone	Wolfgram & Green	Garfield
Garfield	Chaffee		Limestone	Giant Eclipse Cons. Mines Co.	Salida
Salida	Chaffee	Bonacord	Granite	William Yule	Salida
Salida	Chaffee		Granite	T. E. Bowen	820 H. Street, Salida
Larkspur	Douglas	Ware Clay Pit	Clay	Grant Parfet	Golden
Castle Rock	Douglas	Johnson Clay Pit	Clay	Grant Parfet	Golden
Aetna	El Paso	Rabbit	Clay	Standard Fire Brick Co.	Pueblo
Calhan	El Paso	Hecla	Clay	R. J. Locke	Calhan
Canon City	Fremont	Canister	Silica	Canister Mining Company	Canon City
Canon City	Fremont		Limestone	Canister Mining Company	Canon City
Portland	Fremont		Limestone	Colorado Portland Cement Co.	Ideal Bldg., Denver
Portland	Fremont		Shale	Colorado Portland Cement Co.	Ideal Bldg., Denver
Parkdale	Fremont	Eight-Mile	Silica	Standard Fire Brick Co.	Pueblo
Calcite	Fremont	Calcite Nos. 1, 2 & 4	Limestone	Colorado Fuel & Iron Co.	Boston Bldg., Denver
Wellsville	Fremont	Crystall Lime	Limestone	Perry Bros.	230 Empire Bldg., Denver
Wellsville	Fremont	Colorado Lime & Fluxing Co.	Limestone	Perry Bros.	230 Empire Bldg., Denver
Cotopaxi	Fremont	Houghton	Granite	J. A. Lamb	Cotopaxi
Concrete	Fremont		Limestone	United States Portland Cement Co.	Ideal Bldg., Denver
Concrete	Fremont		Shale	United States Portland Cement Co.	Ideal Bldg., Denver
Cotopaxi	Fremont	Noon	Granite	Peter Noon	Cotopaxi
Canon City	Fremont	Dolomite	Limestone	R. Frankenberg	Canon City
Canon City	Fremont	Climax, Climax No. 2	Fire Clay	Jewett Fire Brick Co.	Canon City
Canon City	Fremont	Shale	Shale	Jewett Fire Brick Co.	Canon City
Cotopaxi	Fremont		Limestone	Cotopaxi Lime Co.	438 Equitable Bldg., Denver
Canon City	Fremont	Flint, Triangle	Fire Clay	Diamond Fire Brick Co.	Canon City
Golden	Jefferson	Parfet Mine	Plastic Clay	Denver Sewer Pipe & Clay Co.	611 Interstate Trust B., Denver
Golden	Jefferson	Several unnamed pits	Fire Clay	Golden Fire Brick Co.	Golden

Golden	Jefferson	Queen City	Plastic Clay	Denver Pressed Brick Co.	210 Temple Court Bldg., Denver
Golden	Jefferson	Rubey	Plastic Clay	Rubey Clay Co.	Golden
Golden	Jefferson	Denver Fire Clay, Colorado Crucible & Clay	Fire Clay	Denver Fire Clay Co.	1744 Champa St., Denver
Golden	Jefferson	Rockwell	Plastic Clay	G. W. Parfet	Golden
Golden	Jefferson		Fire Clay	Grant Parfet	Golden
Loveland	Larimer		Gypsum	United States Gypsum Co.	205 W. Munroe St. Chicago. Ill.
La Porte	Larimer		Limestone	John Lewandowski	La Porte
La Porte	Larimer		Limestone	Charles E. Roberts	La Porte
Lime	Pueblo	Lime	Limestone	Colorado Fuel & Iron Co.	Boston Bldg., Denver
Stone City	Pueblo	Turkey Creek	Clay	Turkey Creek Stone, Clay & Gypsum Co.	304 Central Blk., Pueblo
Villa Grove	Saguache		Marble	Colorado Decorative Marble Co.	1805 Curtis St., Denver

OPERATING MILLS AND SMELTERS, 1919

Name	Character of Plant	Town	Location County	Operator	P. O. Address
Iron Mountain*	Ferro Alloy Mfg.	Utah	Utah	Iron Mountain Alloy Co.	Denver
Black Metal	Tungsten Reduction	Boulder	Boulder	Black Metal Reduction Co.	2009 13th St., Boulder
Boulder Sampler	Ore Sampler	Boulder	Boulder	Boulder Ore Sampling Co.	814 Pine St., Boulder
Ohio & Colorado Smelter††	Tungsten and Carnotite Reduction	Boulder	Boulder	Tungsten Products Co.	Boulder
Hudson	Lead Smelter	Salida	Chaffee	Ohio & Colorado S. & R. Co.	Foster Bldg., Denver
Globe Plant††	Concentrator	Idaho Spgs.	Clear Crk.	Hudson Milling Co.	Idaho Springs
Shattuck Plant	Ore Sampler	Idaho Spgs.	Clear Crk.	Clear Creek & Gilpin Ore Co.	Idaho Springs
Golden Cycle Mill	Lead Smelter	Denver	Denver	American Smelt. & Refin. Co.	Equitable Bldg., Denver
Ohio Smelter	Carnotite Reduction	Denver	Denver	Chemical Products Co.†	1299 S. Jason St., Denver
Empire Zinc Mill	Carnotite Reduction	Denver	Denver	Ore Products Corporation	1299 S. Jason St., Denver
River S. & R. Plant	Molybdic Acid Mfg.	Denver	Denver	S. W. Shattuck Chemical Co.	1127 Adams St., Denver
Arkansas Valley Plant	Sulphuric Acid Mfg.	Denver	Denver	Western Chemical Co.**	Denver
Western Zinc Plant	Cyanide	Colorado Spgs.	El Paso	Golden Cycle Min. & Red. Co.	Colorado Springs
Durango Plant	Zinc Oxide Smelter	Canon City	Fremont	Ohio Zinc Company	Canon City
Ironton Mill	Concentrator	Canon City	Fremont	Empire Zinc Company	Box 1860, Denver
Aspen Sampler	Zinc Smelter	Florence	Florence	River Smelt. & Refin. Co.	Florence
Hunter Creek	Lead Smelter	Leadville	Lake	American Smelt. & Refin. Co.	Equitable Bldg., Denver
Mill	Zinc Oxide Mfg.	Leadville	Lake	Western Zinc Concentrating Co.	Leadville
Blende Plant	Lead Smelter	Durango	La Plata	American Smelt. & Refin. Co.	Equitable Bldg., Denver
Pueblo Plant	Concentrator	Ironton	Ouray	Ouray Cons. Min. & Reduc. Co.	Ouray
Minnequa Furnaces	Ore Sampler	Aspen	Pitkin	Aspen Sampling Co.	Aspen
Eagle Sampler	Concentrator	Aspen	Pitkin	Hunter Creek Leasing Co.	Aspen
	Zinc Smelter	Pueblo	Pueblo	United States Zinc Co.	Equitable Bldg., Denver
	Lead Smelter	Pueblo	Pueblo	American Smelt. & Refin. Co.	Equitable Bldg., Denver
	Iron Smelter	Pueblo	Pueblo	Colorado Fuel & Iron Co.	Boston Bldg., Denver
	Concentrator	Telluride	San Miguel	Gold Run Placer Co.	Telluride
	Ore Sampler	Cripple Creek	Teller	Eagle Ore Co.	Victor

*Plant closed permanently and company out of business.

†The business of the Chemical Products Company was taken over by the Ore Products Corporation during the year.

**The General Chemical Company has succeeded the Western Chemical Company.

††These smelters are being cleaned up preparatory to being dismantled.

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